PORTA ONE

Porta Switch™

Handbook: Prepaid Billing

Maintenance Release 16

Part I

www.portaone.com

Copyright notice & disclaimers

Copyright © 2000-2008 PortaOne, Inc. All rights reserved

PortaSwitch Handbook: Prepaid Billing, April 2008
Maintenance Release 16
V1.16.3

Please address your comments and suggestions to: Sales Department, PortaOne, Inc. Suite #400, 2963 Glen Drive, Coquitlam BC V3B 2P7 Canada.

Changes may be made periodically to the information in this publication. Such changes will be incorporated in new editions of the guide. The software described in this document is furnished under a license agreement, and may be used or copied only in accordance with the terms thereof. It is against the law to copy the software on any other medium, except as specifically provided in the license agreement. The licensee may make one copy of the software for backup purposes. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopied, recorded or otherwise, without the prior written permission of PortaOne Inc.

The software license and limited warranty for the accompanying products are set forth in the information packet supplied with the product, and are incorporated herein by this reference. If you cannot locate the software license, contact your PortaOne representative for a copy.

All product names mentioned in this manual are for identification purposes only, and are either trademarks or registered trademarks of their respective owners.

Table of Contents

Preface 3

1. Prepaid VoIP Services 4

Typical prepaid service scenario 5
Setting up your network components 7
Basic prepaid service 12
Provisioning prepaid accounts 43
Special features of the PortaOne calling card application 45

2. Prepaid Card Reseller Services 49

Setting up a prepaid card reseller service 50

3. Configuration Examples for Cisco Gateways 76

Authorize and bill customers by the phone number they are calling from (ANI-based billing) 77
Bill customers who are connected via T1/E1 directly to a port on your gateway 78
Authenticate and bill customers by the IP address of their gateway 80

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Preface

This document provides PortaBilling100 users with step-by-step instructions and examples for setting up various prepaid and postpaid services on a VoIP network.

Where to get the latest version of this guide

The hard copy of this guide is updated at major releases only, and does not always contain the latest material on enhancements occurring between minor releases. The online copy of this guide is always up to date, and integrates the latest changes to the product. You can access the latest copy of this guide at: **www.portaone.com/support/documentation/**

Conventions

This publication uses the following conventions:

- Commands and keywords are given in **boldface**
- Terminal sessions, console screens, or system file names are displayed in `fixed width font`

Caution indicates that the described action might result in program malfunction or data loss.

NOTE: Notes contain helpful suggestions about or references to materials not contained in this manual.

Timesaver means that you can save time by performing the action described in the paragraph.

Tips provide information that might help you solve a problem.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

1. Prepaid VoIP Services

Prepaid services enable Internet telephony service providers (ITSPs) to offer calling card services that customers can pay for in advance.

The market for prepaid services includes tourists, immigrant communities, mobile populations such as military personnel, and people with limited credit histories who cannot otherwise get a private telephone line in their homes. These users can all gain immediate access to long-distance or international calling services from wherever they are located by using prepaid calling cards purchased at supermarkets and other types of retail outlets.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Typical prepaid service scenario

In an ITSP internal network infrastructure, prepaid services are implemented through a debit card application that works in conjunction with the following:

- **VoIP gateway**
- **Interactive Voice Response (IVR) prompt server**
- **PortaBilling**

This combination of services enables a carrier to authorize voice calls and debit individual user accounts in real time.

Customer interaction:

- Customer dials access number
- Customer is asked to enter prepaid card number
- Customer enters prepaid card number
- Customer is provided with information about current balance and asked to enter destination number
- Customer dials destination number
- Customer is provided with information about maximum permitted call duration
- Call is connected
- After disconnect, Customer's balance is reduced.

System components interaction:

Customer	GW	IVR	PortaBilling
Dials the access number			
	Accepts the call and launches the IVR		
		Plays voice prompts ("Welcome…"), asks user to enter his PIN	
Enters his PIN			
		Attempts to authenticate this PIN	
	Sends authentication request using Radius protocol (User-Name equals PIN)		
			Checks that such account exists in the database, that it is not blocked or expired, and that it is allowed to use the service at this location. Upon success, returns account's

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

			balance and other data. Also keeps information about this call in memory to prevent multiple logins with the same account ID
		If authentication is unsuccessful, asks to re-enter PIN or hangs up. Otherwise, tells customer his current balance and prompts him to enter phone number he wishes to call	
Enters destination number			
		Attempts to authorize call to the destination	
	Sends authorization request using Radius protocol (User-Name equals PIN, Called-Station-ID equals number dialed by customer)		
			Checks that account is allowed to call this destination, calculates maximum possible call duration based on account balance and rate for this destination
		If authorization has failed, prompts user to enter another number or hangs up. Otherwise, tells customer maximum allowed call duration and tries to call destination number	
	Determines call route according to rules (dial-peers or gatekeeper information), attempts to connect the call		
		When call is connected, sets timer to the maximum call duration	
Speaks on the phone			
		Warns customer when he has only 1 minute left and, if timer hits zero and customer is still talking, disconnects the call	
	After call is disconnected, sends accounting information		

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

	about the outgoing call using Radius		
			Bills the account, customer and vendor for the outgoing call
Hangs up			
	Sends accounting information about the incoming telephony call		
			Bills the vendor of the incoming telephony service, unlocks session for this account

Setting up your network components

Cisco gateway configuration guidelines

Obtain the debitcard script

The default Cisco debitcard application is provided free of charge to all users who have a valid Cisco support contract (CCO). Obtain the latest version of the script (2.0.2.8a). Please note that this script does not support any billing tricks, such as:

- Announced and real call duration
- Different rates based on the access number
- Special rates for the account's first call

Please contact PortaOne TCL support at **tcl-support@portaone.com** for assistance in implementing these features in your script.

NOTE: According to the Cisco licensing agreement, PortaOne may not distribute the Cisco debitcard application (neither the original nor a modified version). Please contact your Cisco representative to obtain the script.

Place the debitcard script and all the required prompts on your TFTP server. For your convenience, the TFTP server is already pre-configured in the directory `/tftpboot` on the PortaBilling100 slave server. Do not send a copy of the script to PortaOne!

Basic router configuration

The latest telephony IOS and DSP firmware is highly recommended. It is also recommended that the hostname be the same as h323-id.

```
hostname <h323_id>
ip domain name <default domain>
```

NOTE: VSA h323-gw-id="hostname.domain"

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

NTP

NOTE: It is very important to have reliable time services. Also make sure that the time zone abbreviation is one of the standard ones supported by PortaBilling.

```
ntp server <name/IP>
…….
ntp server <name/IP>
ntp master 5
clock timezone <your time zone> 1
clock summer-time <your summer time zone> recurring <your
rules>
```

AAA

```
aaa new-model
aaa authentication login h323 group radius
aaa authorization exec h323 group radius
aaa accounting connection h323 stop-only group radius
```

VoIP interface

```
interface <your interface to the world>
 h323-gateway voip interface
 h323-gateway voip h323-id <h323_id>
```

NOTE: If you want to use a virtual interface then add the line:

```
 h323-gateway voip bind srcaddr <IP>
```

Outgoing SIP server

```
sip-ua
 aaa username proxy-auth
 sip-server dns:<hostname-of-your-PortaSIP-server>
```

Enable gateway functionality

```
gateway
```

Enable gateway accounting

For older IOS versions:

```
gw-accounting h323 vsa
```

For newer IOS versions (12.2T or 12.3):

```
gw-accounting aaa
  acct-template callhistory-detail
```

NOTE: VSA does not work for all platforms.

Radius

IMPORTANT NOTE: Ports 1645/1646 are the traditional Radius ports used by many vendors without obtaining an official IANA assignment. The official assignment is now ports 1812/1813, and users are encouraged to migrate to these new ports when possible.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Cisco notes:

- "radius-server" commands will be available only after issuing "aaa new-model" command
- UDP port for RADIUS accounting server - default is 1646 (see note above)
- UDP port for RADIUS authentication server - default is 1645 (see note above)

Keep in mind:

- Default ports for Cisco are 1645/1646
- Defaults in /etc/ services are 1812/1813

```
radius-server host <name/IP> auth-port 1812 acct-port 1813
radius-server key <key>
radius-server vsa send accounting
radius-server vsa send authentication
```

voice-card

controller

voice-port

Depends on your hardware configuration

call application voice & dial-peers

```
call application voice russian tftp://…../app_porta_debitcard.tcl
call application voice russian pin-len 0
call application voice russian language 1 en
call application voice russian language 2 ru
call application voice russian set-location ru 0 tftp://…./tcl/prompts/ru/
call application voice russian set-location en 0 tftp://…./tcl/prompts/en/
call application voice czech tftp://…../app_porta_debitcard.tcl
call application voice czech pin-len 0
call application voice czech language 1 en
call application voice czech language 2 cz
call application voice czech set-location cz 0 tftp://……/tcl/prompts/cz/
call application voice czech set-location en 0 tftp://……/tcl/prompts/en/
!
dial-peer voice 201 pots
 application czech
 incoming called-number 201
 port 0:D
!
dial-peer voice 202 pots
 application russian
 incoming called-number 202
 port 0:D
!
dial-peer voice 60 voip
 destination-pattern .T
 session protocol sipv2
 session target sip-server
!
```

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Quintum configuration guidelines

To configure RADIUS on the Quintum Tenor (first generation), you must execute the following commands:

```
# config
config# radius
```

To set the authentication port:

```
config radius# authenticationport p 1812
```

To set the accounting port:

```
config radius# accountingport p 1813
```

To set the ip address (replace the ip address with that of the PB-100 master server):

```
config radius# host p 192.168.100.211
```

You must set accounting type to 2 (one accounting record per call leg):

```
config radius# accountingtype 2
```

For more information on these commands, please refer to Section IV: Command Line Reference in the Tenor user manual.

To configure RADIUS on the Quintum CMS gateway, you must execute the following commands in admin mode:

```
# config
config# ri 1
```

To set the authentication port:

```
config-RadiusInfo-1# set pap 1812
```

To set the accounting port:

```
config-RadiusInfo-1# set pacp 1813
```

To set the ip address (replace the ip address with that of the PB-100 master server):

```
config-RadiusInfo-1# set psipa 192.168.100.211
```

You must set accounting type to 2 (one accounting record per call leg):

```
config-RadiusInfo-1# set at 2
```

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

NOTE: Do not configure a RADIUS routing server unless you have one, or else the RADIUS records will not be delivered to PortaBilling.

For more information on these commands, please refer to the Tenor CMS Command Line Interface reference guide.

To configure RADIUS on the new generation of Quintum gateways (AX/DX series), you must execute the following commands in admin mode:

Ethernet:

```
EthernetInterface
set IPAddress {IP}
set SubnetMask {NetMask}
StaticIPRouteDir
add 0.0.0.0 NetMask 0.0.0.0 Gateway {RouterIP}
```

TimeServer:

```
TimeServer
set UTCOffset {Hours}
set PrimaryServerIPAddr 192.43.244.18
set SecondaryServerIPAddr 131.188.3.222
```

Radius:

```
RadiusInfo UserServer
set PrimaryServerIPAddr {RadiusIP}
set SharedSecret {SecretKey}
set AccountingType 2
```

Unit:

```
SIte
set Country 1
GateWay
set OutgoingIPRouting 1
DialPlan
set LongDistancePrefix
set CarrierPrefixPattern
set INTernationaLPrefix[1]
set MAXDNlength 20
set MINDNlength 10
SLot SL2
set Online[1] 1
PUBlicNumberingPlan
set CountryCode
set AreaCode
HuntLDNDirectory pub1
add {AccountID}
```

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Basic prepaid service

Please refer to the **PortaBilling100 Web Reference Guide** PDF file for detailed instructions on how to navigate and operate the web interface, as well as detailed explanations of particular fields.

Checklist

Print the following page and use it to check off the operations you have completed while performing system setup according to the instructions in this chapter. Please be sure to perform all of the operations (all of the boxes must be checked), otherwise the service will not work.

Operation	Done
General configuration	
Enter company data under Company Info.	[ ]
Specify a base currency.	[ ]
For any other currency you plan to use, specify the exchange rate source and define exchange rates.	[ ]
Create all the required destinations.	[ ]
Network configuration	
Create a node for your gateway.	[ ]
Configure your gateway.	[ ]
Rating configuration	
Create a tariff A, which will be applied to prepaid card users.	[ ]
Insert rates in tariff A for the destinations you plan to call.	[ ]
Create a tariff B, which describes your termination costs.	[ ]
Insert rates in tariff B for the destinations you plan to call.	[ ]
Create your prepaid product.	
Create one accessibility entry for this product, using the node you created and tariff A.	[ ]
Create a vendor.	[ ]
Create a connection for this vendor using tariff B.	[ ]
Account provisioning	
Create a customer class which will apply to your prepaid card distributors.	[ ]
Create a retail customer who owns the prepaid cards.	[ ]
Generate accounts for this customer.	[ ]
Testing	
Try to make a test call.	[ ]

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Initial configuration of PortaBilling

TIP: When the system has just been installed, use username **pb-root** and password **pb-root** to login.

The following steps are normally performed only once, after the system has been installed:

Visit **Company Info** on the main menu. Enter information about your company and set up a base currency. Of course this does not limit your operations to this currency only. However, on reports such as cost/revenue different currencies will be converted to the one you specify here.

NOTE: Once you set up a base currency, it cannot be changed. If you make a mistake, you will have to start with a new PortaBilling environment.

From the main menu, choose **Users** and create login entries for users who will be working with the system. It is not recommended that the default PortaBilling root user (`pb-root`) be used for any operations other than initial set-up. Make sure you are able to login as the newly-created user and change the password for the pb-root user.

If you plan to do billing in more currencies than one, define them in the **Currencies** section and specify exchange rates in **Exchange Rates.**

Create destinations

This step is only required if you have not defined the necessary destinations before. There are two ways to insert new destinations into the system:

- One-by-one, using the **Add** functionality on the web interface
- Bulk update, by uploading destinations from a file

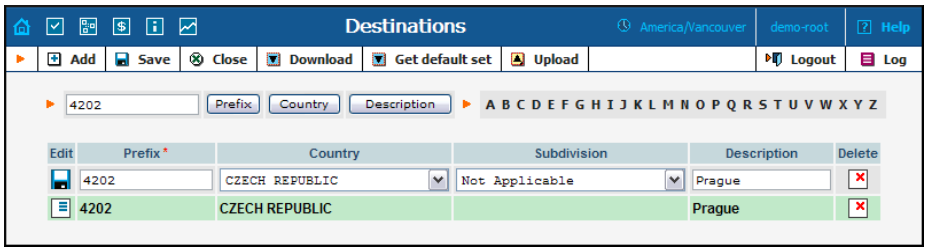
NOTE: A file with the default destination set is supplied with PortaBilling. You can download it and then upload it to the server. However, it may be possible that your business requires different types of prefixes, so please check the data in the file before uploading.

Creating destinations "one-by-one"

1. In the Management section of Admin-Index, choose **Destinations**.
2. Click on the **Add** button.
3. Fill in the required information. This includes the phone prefix and country. Country subdivision is optional. You can use the **Description** column to store some extra information

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

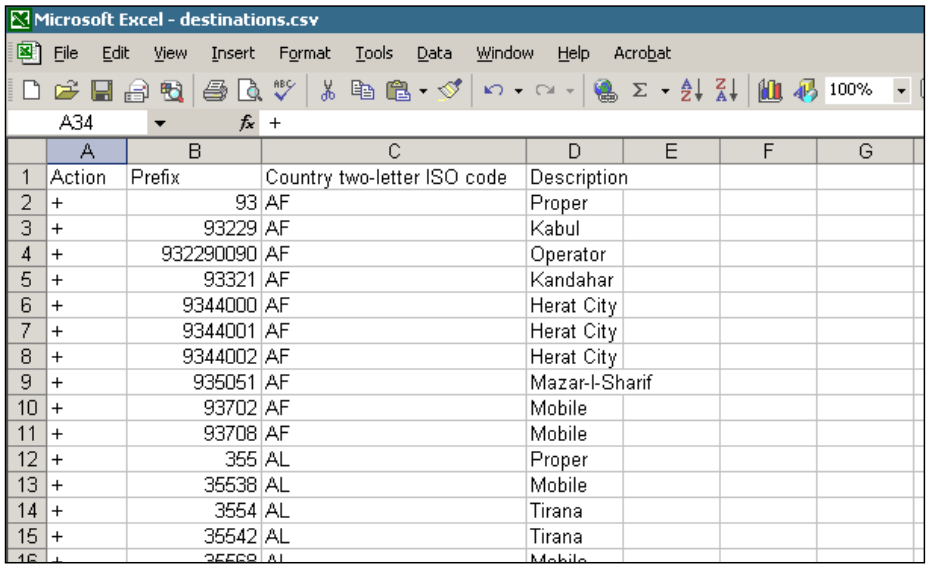
about the destination (for example, if it is a mobile or fixed number).



4. Click **Save**.
5. Repeat for any additional destinations you would like to add.

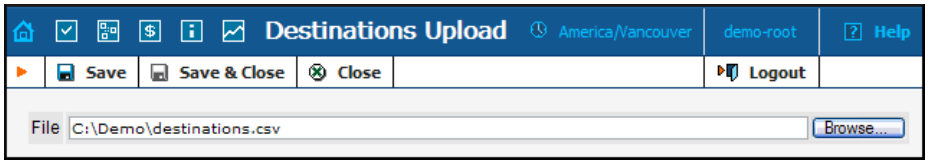
Uploading a set of destinations from a file

1. In the Management section of Admin-Index, choose **Destinations**.
2. Click on **Get default set** to download a set of destinations as a CSV (Comma-Separated Values) file.



	A	B	C	D	E	F	G
1	Action	Prefix	Country two-letter ISO code	Description			
2	+	93	AF	Proper			
3	+	93229	AF	Kabul			
4	+	932290090	AF	Operator			
5	+	93321	AF	Kandahar			
6	+	9344000	AF	Herat City			
7	+	9344001	AF	Herat City			
8	+	9344002	AF	Herat City			
9	+	935051	AF	Mazar-I-Sharif			
10	+	93702	AF	Mobile			
11	+	93708	AF	Mobile			
12	+	355	AL	Proper			
13	+	35538	AL	Mobile			
14	+	3554	AL	Tirana			
15	+	35542	AL	Tirana			

3. Open this file in Microsoft Excel or any other suitable program. Edit the data if required.
4. Save the file and close it in Excel.
5. Switch back to the PortaBilling web interface, and click **Upload** on the Destinations screen.

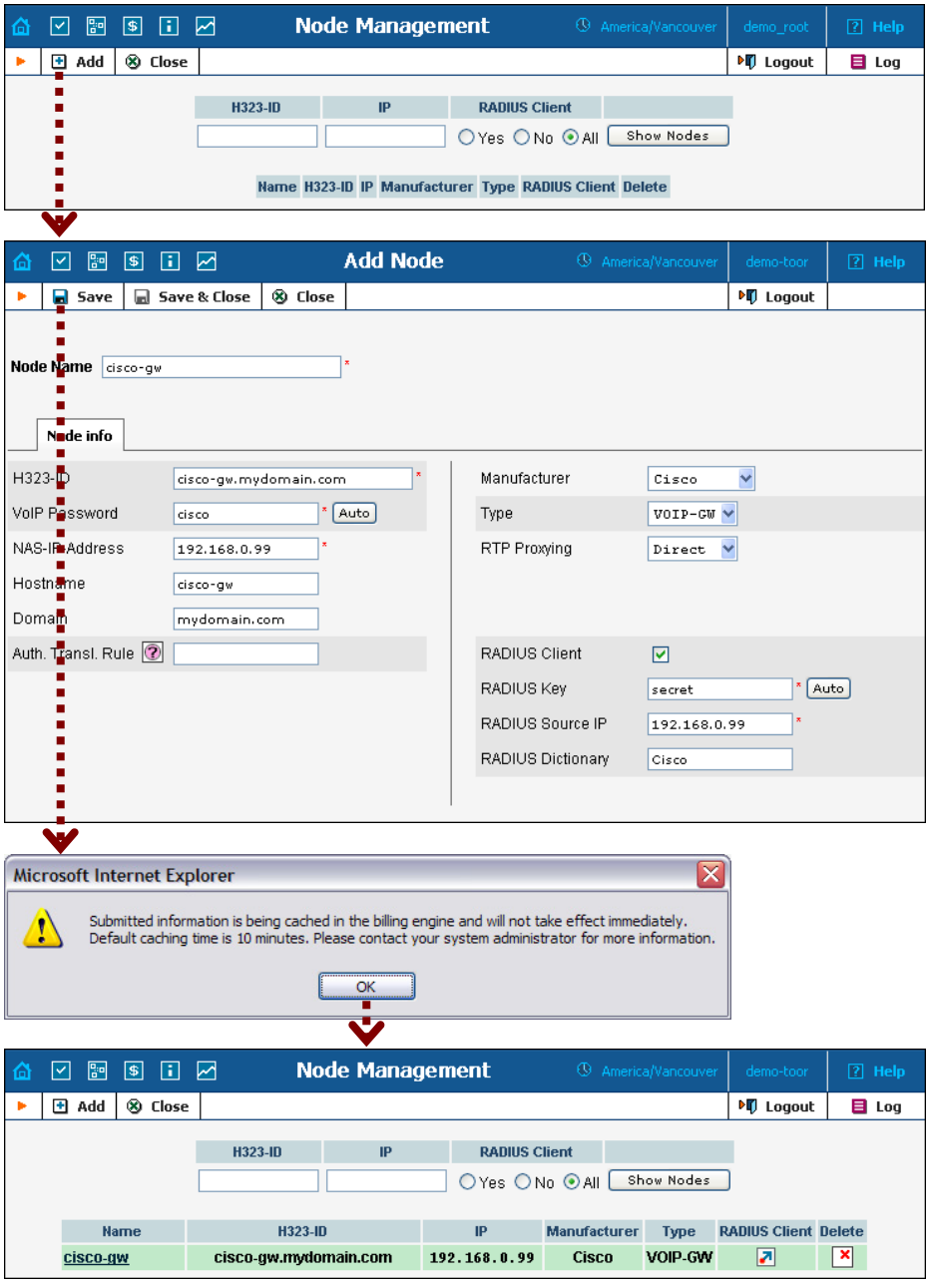


© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

6. Type in the filename of the file you have edited, or click on the **Browse…** button and select the file.
7. Click **Save&Close.**

Create Nodes

This step is only required if you have not entered your gateways into the system before. In this case, you must enter your gateways as nodes. PortaBilling requires some key information about your network equipment such as IP address, h323-id, Radius shared secret, etc.



© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

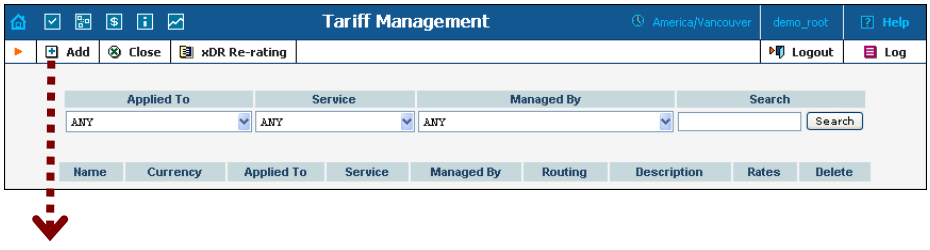
1. In the Management section of the Admin-Index page, choose **Nodes.**
2. In the Node management window, click the **Add** icon.
3. Fill in the New Node form:
   - **Node name** – A short descriptive name for this node (will be used in the select menus).
   - **H323-ID** – h323-id (recommended `hostname.domainname`).
   - **VoIP Password** – If you plan for this node to send calls to other nodes where the default Cisco remote IP authentication script is used, enter **`cisco`** here.
   - **NAS-IP-Address** – IP address of the gateway.
   - **Auth. Translation rule** – Leave this empty for now; see the *Translation Rules* section of the **PortaBilling Administrator Guide**.
   - **Manufacturer** - Select **Cisco** or **Quintum**.
   - **Type** – VoIP node type; select **VOIP-GW**.
   - **RTP proxying** – Leave the default selection (Optimal); for more details regarding NAT traversal, see the **PortaSIP Administrator Guide**.
   - **Radius Client** – Select if this node will be communicating with the billing system.
   - **Radius Key** – If this node is a radius client, enter the shared secret here; must be the same as that configured in NAS as a **key** in the radius server configuration.
   - **Radius Source IP** – See the *Node ID, NAS IP address, and Radius source IP* section of the **PortaBilling Administrator Guide**. Unless your gateway has multiple network interfaces, the value here should be the same as the NAS-IP-Address.
4. Click **Save&Close.**
5. Repeat steps 2-4 until all of your nodes have been entered.

NOTE: There is some propagation delay between the database and the Radius server configuration file, but no more than 15 minutes.

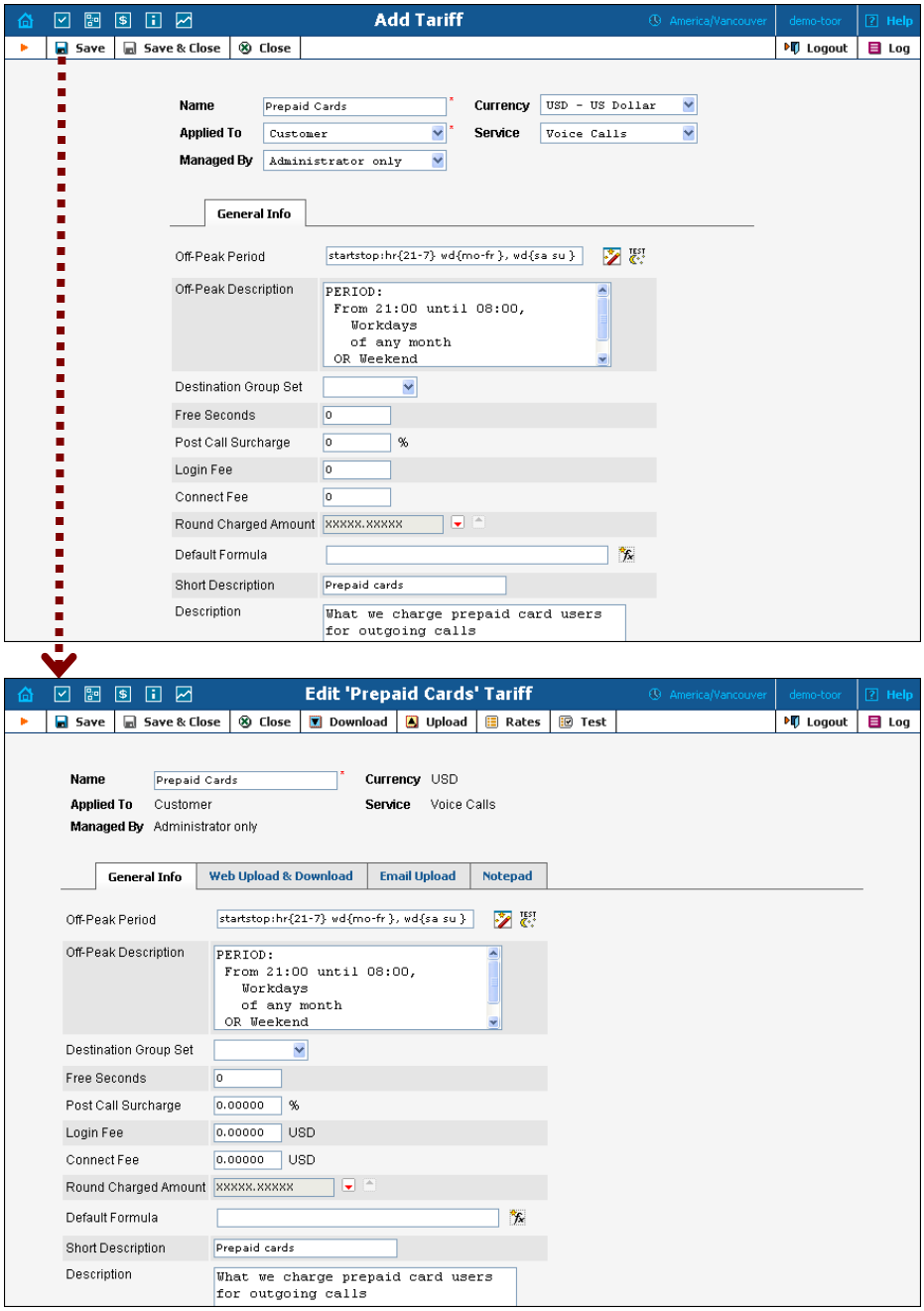
Create Tariff

A tariff is a single price list for call services. A tariff combines:

- conditions which are applicable to every call regardless of the called destination
- per destination rates



© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com



In the Management section of Admin-Index, choose **Tariffs**.

1. On the Tariff Management page, choose **Add**.
2. Fill in the **New Tariff** form:
   - **Name** – Short name of the tariff object. This is the name you will see later in the select menus.
   - **Currency** – Indicates in which currency the pricing information is defined. All pricing information for a single tariff must be defined in the same currency.

NOTE: The currency for the tariff is chosen only once, and cannot be changed later.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

- **Applied To** – Designates whether this tariff will be used to charge your prepaid customers (in this case, choose a **Customer**) or to calculate costs associated with your vendors (in this case, choose a **Vendor**).
- **Managed By** – Choose "**Administrator Only**" here (this option is only visible after you select **Applied to: Customer** above).
- **Service** – Choose **Voice Calls** here.
- **Off-peak Period** – Defines the off-peak period. Click on the Off-peak period wizard icon ( ) to summon the wizard, which will help you construct the correct period definition. Click **Help** to get more information on period format definition. If you do not differentiate between peak and off-peak rates, just leave this field blank.
- **Off-peak Description** – Description of the off-peak period, automatically filled in by the off-peak period wizard. You do not have to fill in this field.
- **Destination Group Set** – If you wish to enter rates in the tariff not for each individual prefix, but for a whole group of prefixes at once, you should create a destination group set and destination groups beforehand. Leave this select menu empty for now.
- **Free Seconds** – The number of free seconds granted for each call. In order to claim free seconds, the length of the call must be at least one billing unit (first interval; see the *Enter Rates* section above).
- **Post-Call Surcharge** – Percentage of the amount charged for the call.
- **Login Fee** – Amount to be charged immediately after the first user authentication (i.e. after the user enters his PIN).
- **Connect Fee** – Amount to be charged for each connected call (with a non-zero duration).
- **Round Charged Amount** – Instead of calculating xDRs with a 5-decimal-place precision, round up xDR amount values (e.g. XXXXX.XX000 means rounding to cents, so that 1.16730 becomes 1.17).
- **Default Formula** – The default rating formula which will be applied to every new rate created in the tariff. If you leave this empty, "old-style" rating will be used.
- **Short Description** – A short tariff description. This will be shown in the rate lookup on the admin interface and the self-care pages for your accounts and customers. For example, for a tariff named Cust-ABC-Easy Call-1800, the short description will provide better information for your reseller ABC, who will be using this tariff, such as: "EasyCall – via a toll-free number".
- **Description** – Extended tariff description.

3. Click **Save.**
4. Repeat steps 1-3 until you have entered all of the tariffs.

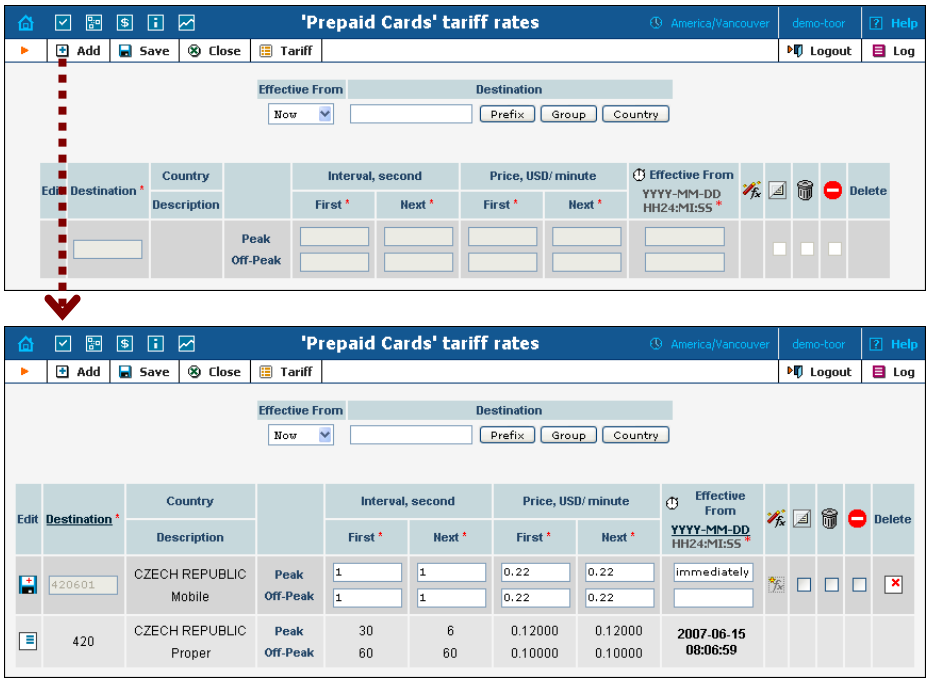
© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Enter Rates

Rates are per-destination prices. Please refer to the *System Concepts* chapter in the **PortaBilling Administrator Guide** for more details on billing parameters.

Managing rates online

Managing rates online is very convenient for maintaining existing rate tables, as well as for reference purposes. In the case of new price lists or major updates, the offline method is better.



1. On the Tariff Management page you will see a list of available tariffs. Click the **Rates** icon next to the name of the tariff. When you are in Tariff Management for a particular tariff, click on **Rates** in the toolbar.
2. In the **Edit Rates** screen, click **Add.**
3. Fill in the required information:
   - **Destination** – The destination prefix may be entered directly, e.g. **47** for Norway, or you can access the destinations directory by clicking the **Destination** link (in the column header). Here you can find the desired prefix by country name.

NOTE: The phone prefix you are trying to create a rate for must already exist in Destinations.

   - **Interval First** – First billing unit in seconds.
   - **Interval Next** – Next billing unit in seconds.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

- **Price First** – Per-minute price for first interval.
- **Price Next** – Per-minute price for next interval.
- **Off-peak Interval First**– First billing unit in seconds for off-peak time.
- **Off-peak Interval Next** – Next billing unit in seconds for off-peak time.
- **Off-peak Price First** – Per-minute price for first interval of off-peak time.
- **Off-peak Price Next** – Per-minute price for next interval of off-peak time.

NOTE: Off-peak fields appear only if an **off-peak period** has been defined for the tariff.

- **Effective From** – If you want this rate to take effect sometime in the future, you can either type in a date manually, or use the calendar (click the DD-MM-YYYY link).

NOTE: When using the calendar, you can specify that the date you are entering is in a different time zone than your current one. PortaBilling will then automatically adjust the time.

- **Rate Formula Wizard** – Launches the wizard for creating a custom rating formula
- **Hidden**, **Forbidden** or **Discontinued** – These flags are optional.

4. Click the **Save** button in the toolbar, or the icon on the left end of the row.
5. Repeat if you need to enter more rates.

Managing rates offline

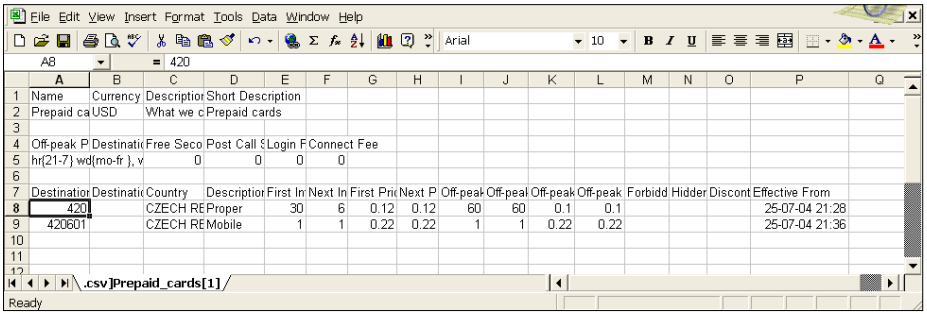
NOTE: Templates are available in PortaBilling – a powerful tool for uploading rates from custom format data files. However, in this particular example we assume that you are preparing data in the default PortaBilling format.

A rates table may be prepared using a spreadsheet processor (i.e. Microsoft Excel) and easily imported into PortaBilling. This is very convenient if you wish to make many changes. For example, you might want to increase all prices by 10%.

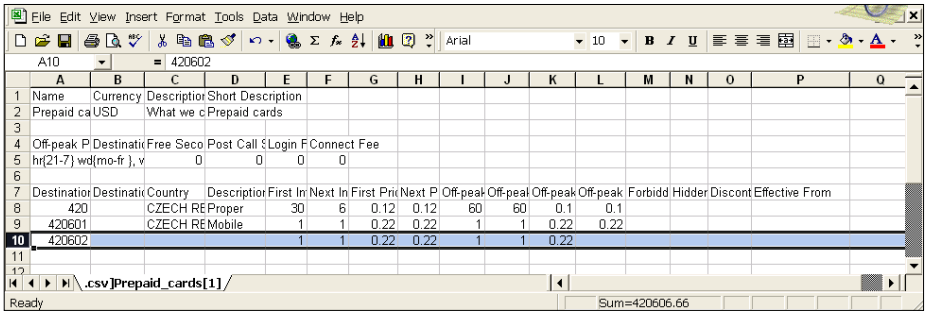
1. If you are not in Tariff Management for your tariff, go to the main menu, click on **Tariffs**, and then click on the tariff name.
2. In the Edit Tariff window, move the mouse over the **Download** button and hold it there until a popup menu appears. Choose the **Now** menu item and click on it. This will download the current set of rates (empty), and will also provide you with an overview of the file structure.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

3. You will see the **File Download** dialog and be prompted to save the file or open it from its current location. We recommend that you first save the file to the folder you will be using in the future to store tariff data files, then open it in Excel.
4. You should see something similar to the screenshot below:



5. Edit the file by adding more rows with rate data, so that it looks like the screenshot below.
6. Note that the columns **Country** and **Description** are for reference purposes only, and are ignored during import. Also, when using the default template you must fill in the data in the **Off-peak** columns even if your tariff does not have an off-peak period (use the clipboard to easily copy values for the four peak columns).
7. Also note that you may only use those phone prefixes which you have already defined as destinations (see **Create Destinations** above).
8. Make sure that you clear the values in the **Effective From** column (which means that the new rates are effective immediately) or enter a future date there. Otherwise, if you retain past dates, then these rates will fail to upload.



9. Save the file in Excel. You will probably get a warning from Excel that your file "*may contain features that are not compatible with CSV (Comma delimited)*". Ignore this, and choose **Yes** to retain CSV format.
10. Close the file in Excel. If you performed step 6, then disregard the message "*Do you want to save the changes you made*", as this is only due to the fact that your format is not the native Excel XLS format.
11. Go back to the PortaBilling web interface and the **Edit Tariff** screen.
12. Click on the **Upload** button.

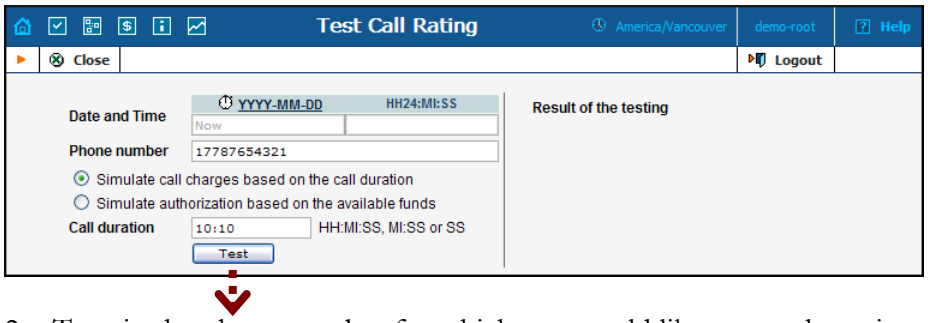
© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

13. Either enter the name of your file manually, or click **Browse…** and choose the file.
14. Click **Save&Close**. You should return to the **Edit Tariff** screen, where a message will inform you of the status of the import. Also, you will receive an email confirmation about the tariff upload. If any operation failed, you will receive the portion of data which was not uploaded as an attachment, so you can try to import it later.

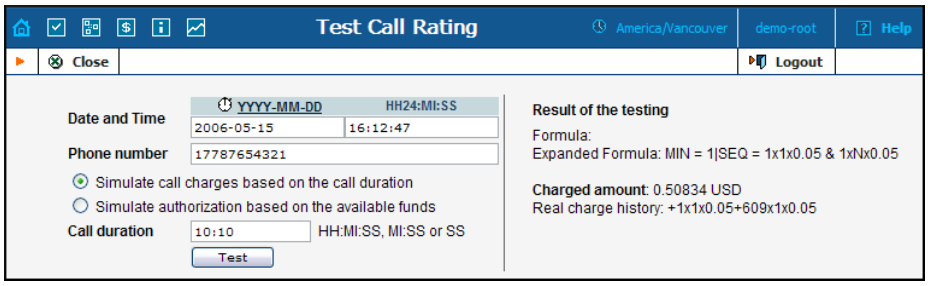
You can verify your work using the **Edit Rates** feature. After you have done so, go to the **Main Menu** (by clicking on the **Home** icon).

Test the rate configuration (optional)

1. While in the **Edit Tariff** window, click on the **Test** button to go to the Test Call Rating screen.



2. Type in the phone number for which you would like to test the rating, as well as the estimated call duration, then click on the **Test** button.



3. You will now see the estimated amount charged for this call, as well as a detailed explanation of the rating process.
4. Press the **Close** button to return to the **Edit Tariff** window.

Create all required tariffs

Repeat the *Create Tariff* and *Enter Rates* steps until you have created:

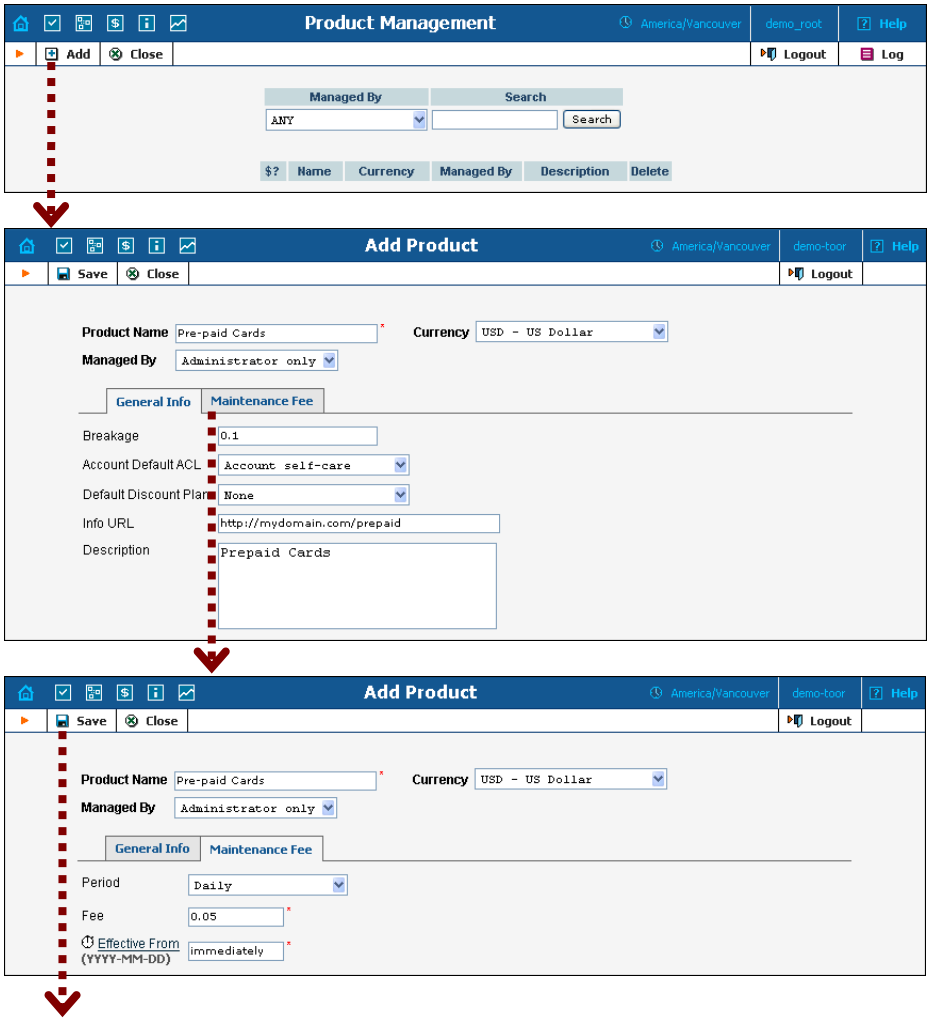
- A tariff for each account's billing scheme, these tariffs are created as "Applied to: Customer". For example, if you plan to charge your customers more when they access toll-free lines instead of local ones, you need two tariffs, i.e. "Normal" and "Using Toll-free line".

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

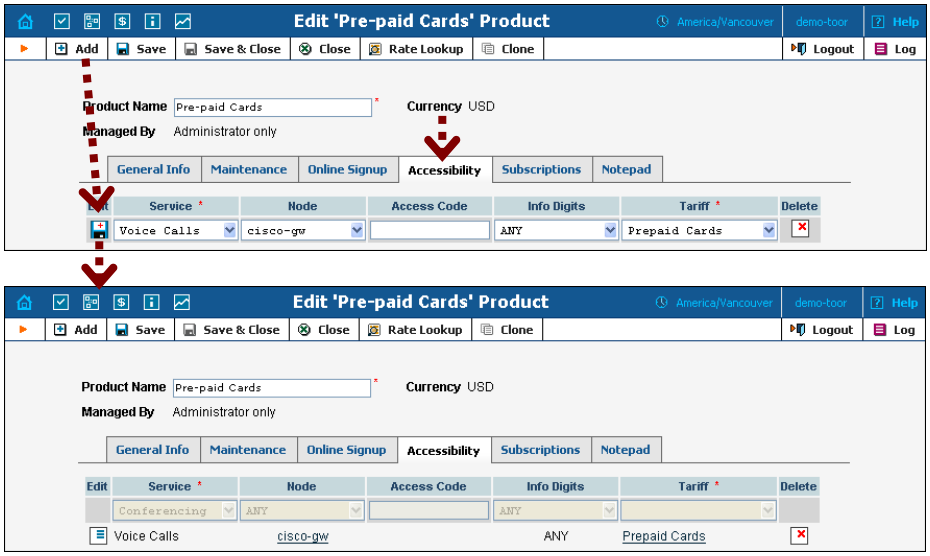
- A tariff with the termination costs for each termination partner you have, these tariffs are created as "Applied to: Vendor".
- If you have resellers, you should also create tariffs that you will use for charging each of them, these tariffs are created as "Applied to: Reseller". Do not create tariffs which will be applied to your resellers' subscribers yet. First create resellers and then return to this step. Make sure that, when creating these subscriber tariffs, you choose *Managed by NNN* in the menu, where *NNN* is the name of the corresponding reseller. For more details, see the *Setting up a prepaid card reseller service* section.

Create Product

Prepaid cards will be issued for a specific product. Products are a powerful feature that defines different ways to bill an account. Product definition is always done in two steps: product definition and creation of the accessibility list.



© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com



In the Management section of the Admin-Index page, choose **Products**.

1. On the Product management page, click the **Add** icon.
2. Fill in the "Add product" form:
   - **Product name** – Product object name.
   - **Currency** – Product currency. Only tariffs which have the same currency will be permitted in the accessibility list.
   - **Managed by** – If you plan for this product to be used for your reseller's accounts, so that the reseller himself can change the parameters of this tariff and create new accounts with this product, choose the customer's name from the menu. Otherwise choose **Administrator only** here.

General Info tab

- **Breakage** – Leftover balance which is considered "useless" (for statistical purposes). Accounts with a balance below breakage will be counted as *depleted*. This does not affect account authentication or authorization, so the account can still make calls if there is enough money left to cover at least the first interval.
- **Account default ACL** – The access level assigned by default to new accounts created with this product. The ACL determines which operations may be performed by accounts on the self-care pages. The default value is "Account self-care" (pre-defined ACL), which allows all possible operations.
- **Default Discount Plan** – Leave **None** as the selected entry, since discount plans are typically used for postpaid services. Please refer to the description of volume-based discounts in the PortaBilling Administrator Guide for more details.
- **Info URL** – If you have an external server with a description of product features, enter the URL here (e.g. **http://www.myproduct.com**). Your customers will be able to go there from their self-care page.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

- **Description** – Your description of the intended use of this product.

Maintenance Fee tab

- **Period** – Surcharge application interval; will be shown in call history as a separate line each time it is charged. **None** disables the maintenance fees.
- **Fee** – Surcharge amount.
- **Effective from** – Apply the specified maintenance fee only after a certain date (no fees assessed until then); choose **Immediately** to start applying charges as soon as possible.

3. Click **Save.**
4. Click on the **Accessibility** tab to edit this product's accessibility.

Enter Node and Tariff into the product's accessibility list

The accessibility list has two functions: it defines permitted access points (nodes and access numbers) and specifies which tariff should be used for billing in each of these points.

1. With the Accessibility tab selected, click on the **Add** icon.
2. Choose **Voice Calls** in the **Service** select menu.
3. In the Accessibility entry window, select the node where your IVR will be running and choose the appropriate tariff.
4. You can also use an access number for Accessibility in the **Access code** field. For example, if you have a node with two access numbers, local (12345) and toll-free (1800 12345), you can set up the product's accessibility in such a way that if a customer calls via a toll-free line, he will be billed using a different tariff (one which includes surcharges).

NOTE: The Access Code feature requires modification of Cisco platform application scripts; see **Help** item on the Accessibility screen for more information. The Access Code feature on the Quintum platform requires the ACCESSCODE feature (available in the recent firmware).

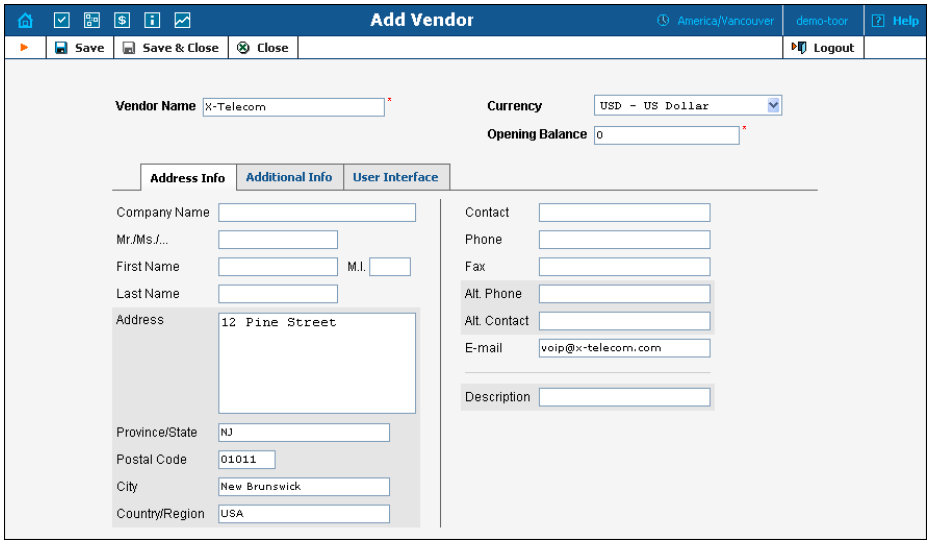
5. The **Info Digits** menu allows you to apply different tariffs depending on the type of line from which your customer originates a call. If you are unsure whether your telecom sends such information, leave the default value ANY.
6. Click **Save** to save this accessibility entry.
7. Repeat steps 1-6 if you want to define more accessibility entries.

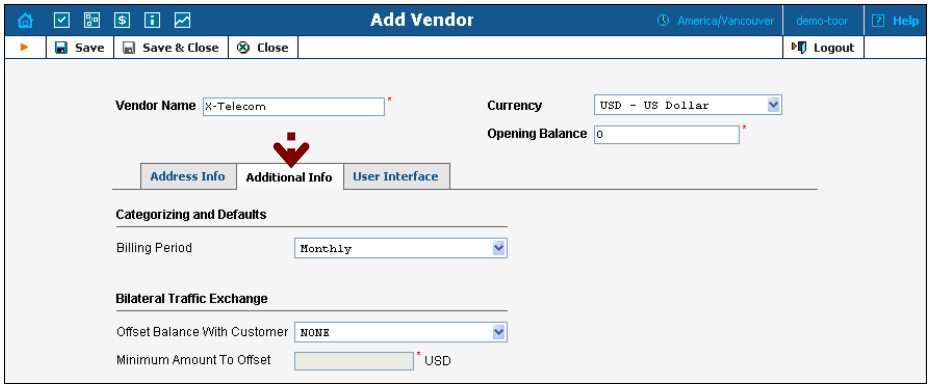
Create Vendors

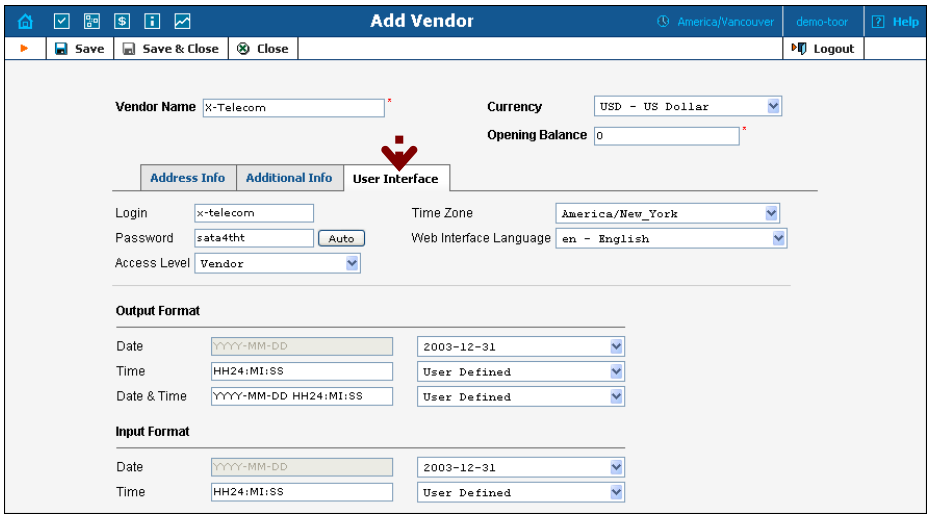
This step is only required if you have not entered information about your vendors into the system before. Vendors are your termination partners or the providers of incoming toll-free lines.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

1. In the Management section of the Admin interface, choose **Vendors**.
2. On the Vendor Management page, choose **Add**.







3. Fill in the **New Vendor** form. Please note that there are two tabs available on the screen. The most important fields are:

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Main form (top)

- **Vendor Name** – Short name for the vendor object; will be used on the web interface.
- **Currency** – The currency in which this vendor charges you.
- **Opening balance** – Starting balance for the vendor; default is zero.

Additional info

- **Billing period** – Split period for vendor statistics.

User-Interface

- **Time zone** – The time zone which the vendor uses for his billing period. Statistics will be divided into periods according to this time zone.

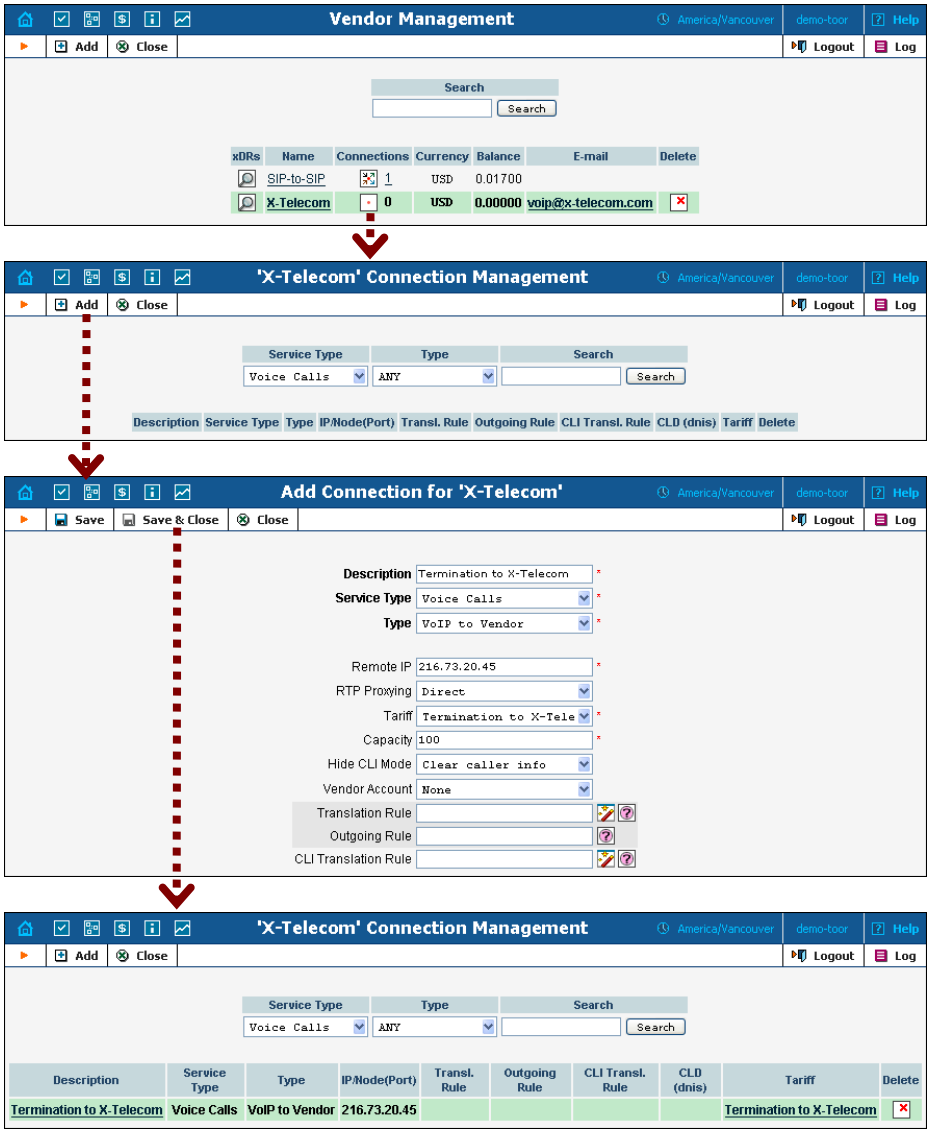
4. Click **Save&Close**.
5. Repeat steps 2-4 to add all of your vendors.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Define connections

This step is only required if you have not entered information about your vendors into the system before. Vendors are your termination partners or the providers of incoming toll-free lines.

1. In the Management section of the Admin interface, choose **Vendors**.
2. Click on the **Connections** icon next to the vendor name.



3. Press **Add** to add a new connection.
4. Fill in the connection information. If you send traffic to the vendor via telephony, choose the node and enter an optional port pattern. If you send traffic via VoIP, enter the remote IP address. Choose the

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

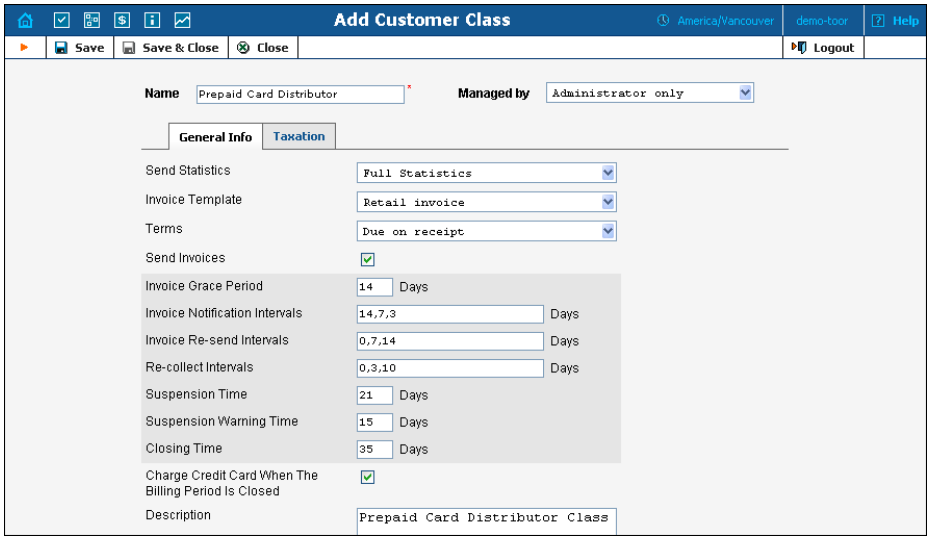
tariff which defines your termination costs for this connection/vendor. **Description** and **Capacity** are mandatory for all connection types.

5. Click **Save&Close**.
6. Repeat steps 3-5 to add more connections to the same vendor, then click **Close** in order to exit to the **Vendor Management** screen.
7. Repeat steps 2-6 to add connections for other vendors.

Create a Customer Class

Customer class provides the ability to define a group of parameters in a centralized way, then apply those parameters to many customers at once. (If you have already created a customer class that you can use for prepaid card distributors, skip this step and go to the next one.)

1. In the Management section of the Admin interface, choose **Customer Classes**.
2. On the Customer Class Management page, choose **Add**.

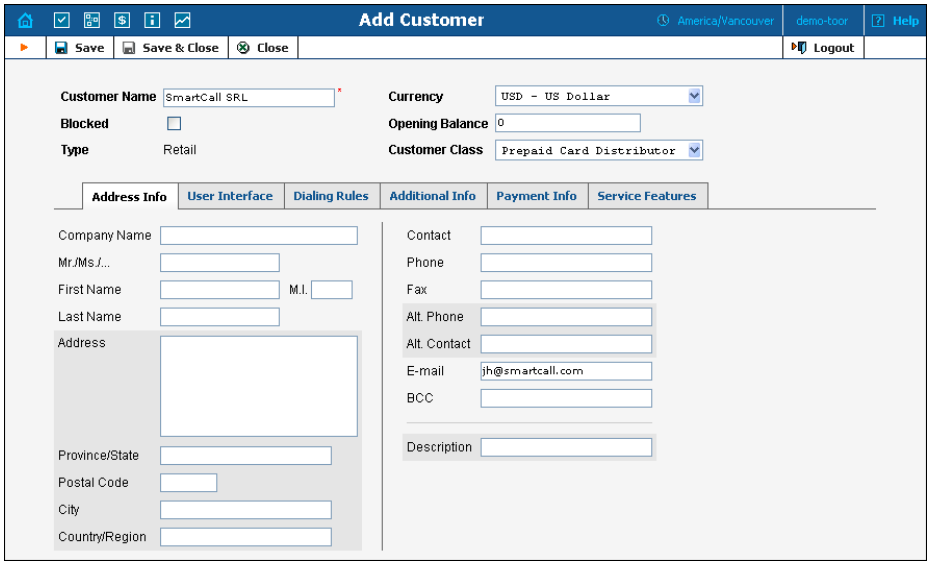


3. Fill in the **Name** parameter; the other fields can be left empty for now.
4. Click **Save&Close**.

Create a customer

A customer is an owner of accounts. The customer's contact information is used to distribute account usage information, call statistics, invoices, and so on. Even if your company owns and distributes all of its prepaid cards, you will need at least one customer object for your company.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com



In the Management section of Admin-Index, choose **Customers**.

1. On the Customer Management page, choose **Add Customer** or **Add Reseller** (normally, most of your customers would be retail customers. Only if a customer is reselling your services, and you are providing services and billing to his subscribers, would he be created as a reseller).
2. Fill in the **New Customer** form. Please note that there are several tabs with extra information available on the screen. The most important fields are:

Main form (top)

- **Name** – Short name for the customer object; will be used on the web interface.
- **Currency** – The currency in which this customer will be billed.
- **Opening balance** – Starting balance for the customer; default is zero.
- **Customer Class** – Choose the customer class you created in the previous step.

Address info tab

- **Email** – Email address for distribution of accounting information. After the billing period is over, a list of xDRs and other statistics will be sent to this address.
- **Bcc** – Delivery to the specified email address of your account representative a copy of every outgoing email sent to the customer; this may be used for debug and archiving purposes.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Additional info tab

- **Billing period** – Frequency of distribution of accounting information. For more details about different available billing periods, see the **PortaBilling Administrator Guide**.
- **Send Statistics – Summary only** – Distribute a call summary only, and do not attach a details file; this might be useful in the case of a large amount of calls. Other options are **full statistics** (attach a complete list of xDRs) or **do not send** (no not deliver call statistics to this customer via email at all).

Payment info tab

- **Credit limit** – If left empty, there is no credit limit for this customer.

User Interface tab

- **Time zone** – The time zone in which the customer will see his xDRs, and which will also define his billing period. For example, if you choose **America/New_York** here and the billing period is **Monthly**, this means the billing period will start on the first day of the month at 00:00 New York time.
- **Web Interface Language** – The language to be used on the customer self-care web interface.

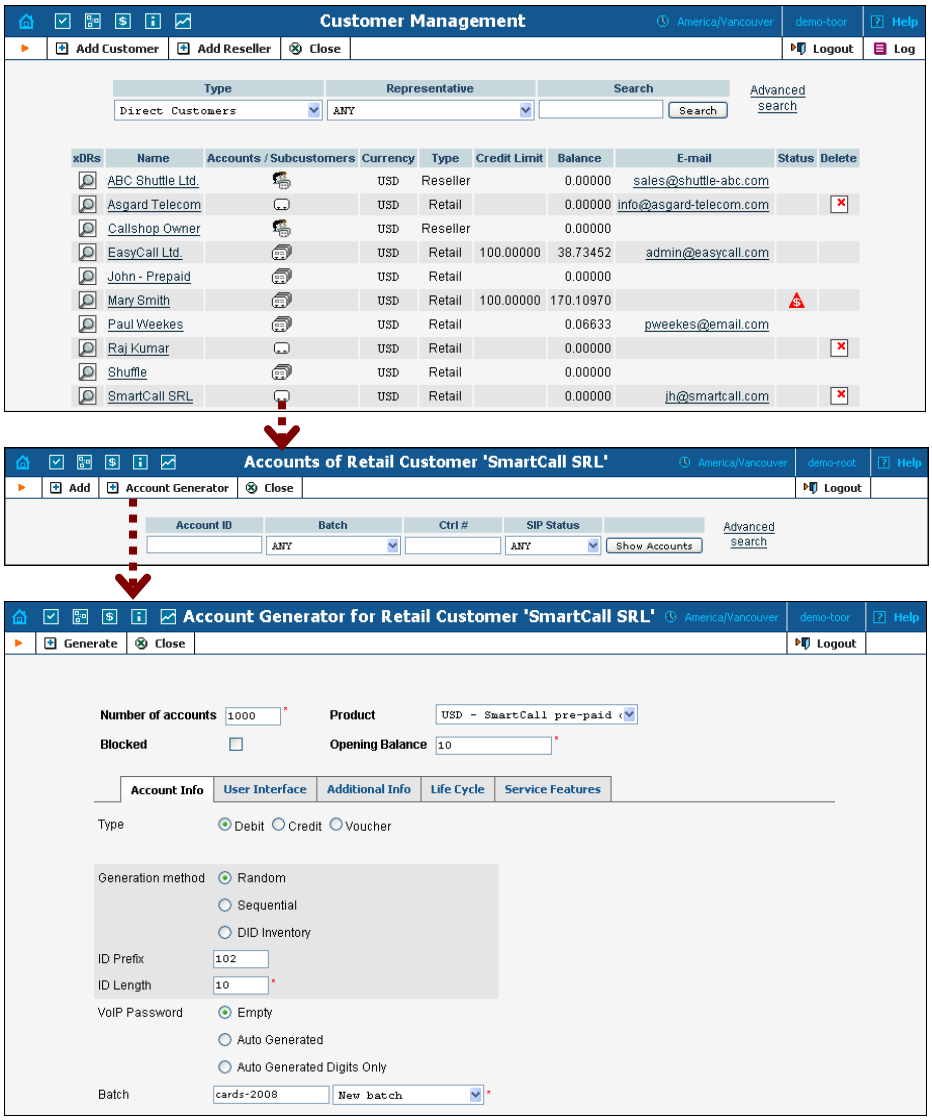
3. Click **Save&Close.**

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Generate Accounts

NOTE: Before generating accounts for a production system, read the section on "Provisioning prepaid accounts".

1. Go to the **Customers** screen (the screen which contains a list of customers). It should look like the screenshot below:



2. Next to the customer name, click on the Account or icon (the one in the **Accounts** column), which will take you to the account management for that customer.
3. Click on the **Account generator**.
4. Fill in the "Account generator" form:

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

- **Number of accounts** – Number of accounts (prepaid cards) to be generated.
- **Product** – Choose the product which you would like your accounts to have.
- **Blocked** – It is normal practice to generate all your prepaid cards as blocked, so they cannot be misused before being sold to the dealer or end customer. You can always activate the whole batch of cards or an individual card later.
- **Opening balance** – The initial balance on the card.

Account info tab

- **Account type** – Account type; select **Debit** for prepaid service.
- **Generation method** – Choose **Random** here; this will assign every account a unique, randomly-generated PIN.
- **ID prefix** – If you would like all of the generated accounts to start with the same digit string (e.g. **98**), enter it here. Thus, if you enter 98 and an ID length of 10, account IDs (PINs) will look like this: 98NNNNNNNN, where N = random digits.
- **ID length** – All account IDs (PINs) will be numerical and of the specified length. In order to avoid problems with the prepaid card print-shop, PortaBilling will not generate account numbers with a leading zero. Also, PortaBilling will only allow generation of a batch with feasible parameters, e.g. it is impossible to generate a batch of 1,000 accounts with ID length 4 and ID starting at 55.
- **Starting ID** – Only available in Sequential generation and is always numeric.
- **VoIP Password** – To improve security, you can use an account password during authentication, in addition to a PIN. Not all IVRs support this feature. If you choose **Empty**, no password will be assigned to the account, and the password check will be switched off during authentication. Choosing **Empty** is recommended by default. If you decide to use passwords, then please use the **Auto-generated digits only** option, since then the password can be entered in the IVR via phone keys.
- **Batch** – A batch is a management unit for accounts. The batch name is alphanumeric. You can type a new name here, or use the existing name in order to generate more accounts for the same batch.

Additional Info tab

- **E-Commerce Enabled** – If checked, this will allow your debit card owners to make online payments via the PortaBilling web interface. (Leave unchecked.)
- **Discount Plan** – Applies a specific discount plan to this group of accounts. (Leave as **Product Default**.)

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Life Cycle tab

- **Activation date** – Account activation date.
- **Expiration date** – Account expiration date.
- **Lifetime** – Relative expiration date; account will expire on "first usage date" + "life time" days. If you do not want to use this feature, leave the field blank.

User Interface tab

- **Login** – If you choose **Account ID** (default), your customer will use his account ID (PIN) to login to the self-care pages. If you choose **Empty**, the account owner will not be able to use the self-care pages at all until a login has been assigned for his account.
- **Password** – **Auto-generated** means that a random password for web access will be assigned for each account (these passwords will be included in the .CSV file with the account information). **Empty** means that no password will be assigned, so account owners will be able to login to the web interface simply by providing their account ID (PIN).
- **Time Zone** – When an account owner accesses the web self-care pages to see a list of his calls, the time will be shown in the time zone most appropriate for him.
- **Web Interface Language** – The language to be used on the account self-care web interface.

Service Features tab

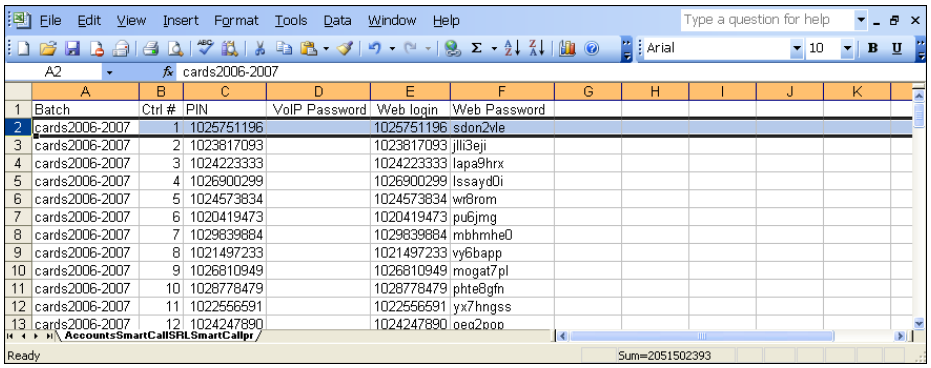
- **Preferred IVR language** – This is a custom attribute which is transferred to the IVR. Leave English here if you are not sure whether your IVR supports it.
- **Associated number** – Redirect number (discussed in the *Use the Redirect Number Feature* section of the **PortaBilling Administrator Guide**). Leave this empty.
- **UM enabled, Follow Me enabled** and other IP Centrex features – Leave these unchecked for prepaid cards.

5. Click **Generate Accounts**; a confirmation screen will indicate that your information has been accepted.
6. Click **Close** to return to the account administration page.

NOTE: Account generation tasks are executed every few minutes, and it may take a while to generate large numbers of accounts.

Generated cards will be distributed via email to the user who created them.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com



	A	B	C	D	E	F
1	Batch	Ctrl #	PIN	VoIP Password	Web login	Web Password
2	cards2006-2007	1	1025751196		1025751196	sdon2vle
3	cards2006-2007	2	1023817093		1023817093	jlli3eji
4	cards2006-2007	3	1024223333		1024223333	lapa9hrx
5	cards2006-2007	4	1026900299		1026900299	lssayd0i
6	cards2006-2007	5	1024573834		1024573834	wr8rom
7	cards2006-2007	6	1020419473		1020419473	pu6jmg
8	cards2006-2007	7	1029839884		1029839884	mbhmhe0
9	cards2006-2007	8	1021497233		1021497233	vy6bapp
10	cards2006-2007	9	1026810949		1026810949	mogat7pl
11	cards2006-2007	10	1028778479		1028778479	phte8gfn
12	cards2006-2007	11	1022556591		1022556591	yx7hngss
13	cards2006-2007	12	1024247890		1024247890	oeq2pop

A CSV file with information about the new accounts will be attached.

Tip: In case the original email message was lost or accidentally deleted, the file containing generated accounts is stored on the slave PortaBilling server in the user **porta-admin** home directory, sub-directory ***cards***.

Test everything together

1. Start Radius debug on GW.
2. Make sure the PortaBilling radius server is running.
3. Try to make a call and use one of the accounts.
4. Browse information in the PortaBilling log file (type "`less /var/log/porta-billing.log`"). Or, alternatively, find this call in **Trace call**, then click on **View details** and **View log**.

Example of a normal debug session:

```
Jun 05 18:04:54: Processing request (BE ver1.245.2.4,pid85499):
```
There is a copy of all the incoming attributes in the log.
```
NAS-IP-Address                  = '193.28.87.3'
NAS-Port-Name                   = 'ISDN 2:D:23'
NAS-Port-Type                   = 'Async'
User-Name                       = '59153211058'
```
The User-Name attribute contains the PIN number entered by the user.
```
Calling-Station-Id              = '14257891107'
Service-Type                    = 'Login-User'
h323-conf-id                    = '465F5B2B F42F11DA 8274BDD0 75CFFB2D'
```
h323-conf-id is the unique ID for every call.
```
Password                        = ''
h323-ivr-out                    = 'PortaBilling_Original_CLD:4041234567'
```
This is a special PortaBilling attribute which reports the original access number on the gateway used by the customer to access the IVR.
```
h323-ivr-out                    = 'transactionID:361'
NAS-Port                        = '0'
```
This is an **authentication** request (also called **first authentication**), since there is no **Called-Station-ID** attribute. The purpose is to verify that such an account really exists in the database, and to return account attributes such as account balance.
```
Jun 05 18:04:54: h323-conf-id=465F5B2B F42F11DA 8274BDD0 75CFFB2D/4, call-id=
Jun 05 18:04:54: Found a call in cache with such id
Jun 05 18:04:54: PrepareNexecute 'AccountAuth'
Jun 05 18:04:54: Found Account: 59153211058[96,debit,balance=10.00000] of
customer SmartCall SRL [20,balance=0.00000,limit=none]
```
The line above confirms that such an account has indeed been found in the database.
```
Jun 05 18:04:54: Account 59153211058 is not logged in yet
```

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

```
Jun 05 18:04:54: Account has an empty password, skip the password check
Jun 05 18:04:54: Attempt to charge account with a login fee
Jun 05 18:04:54: Logging in account '59153211058'(96) to '465F5B2B F42F11DA
8274BDD0 75CFFB2D'
Jun 05 18:04:54: Account '59153211058' logged in, setting call lifetime to 1800
sec
```

Since this is a **debit** account, the session is locked and the call lifetime is increased to prevent multiple login attempts.

```
Jun 05 18:04:54: Updating account usage of '59153211058' with 'Mon Jun  5
18:04:54 2006'
```

The first use date for the account is updated.

```
Jun 05 18:04:54: PrepareNexecute 'UpdateAccountUsage'
Jun 05 18:04:54: Authentication acknowledge response
```

Here is an overview of all the information sent back to the gateway:

```
h323-credit-amount              = 10.00
h323-billing-model              = 1
h323-ivr-in                     = Tariff:SmartCall Prepaid
h323-ivr-in                     = PortaBilling_AccountBalance:10.00000
h323-ivr-in                     = PortaBilling_ProductBreakage:0.10000
h323-ivr-in                     = available-funds:10.00
h323-return-code                = 0
h323-currency                   = USD
h323-preferred-lang             = en
Jun 05 18:04:54: ...Done.
```

This completes processing for the request.

```
Jun 05 18:06:13: Processing request (BE ver1.245.2.4,pid85499):
NAS-IP-Address                  = '193.28.87.3'
User-Name                       = '59153211058'
Called-Station-Id               = '16046282508'
```

Called-Station-Id contains the destination number dialed by the user.

```
Calling-Station-Id              = '14257891107'
Service-Type                    = 'Login-User'
h323-conf-id                    = '465F5B2B F42F11DA 8274BDD0 75CFFB2D'
Password                        = ''
h323-ivr-out                    = 'PortaBilling_Seed:10649791024'
h323-ivr-out                    = 'PortaBilling_Original_CLD:4041234567'
h323-ivr-out                    = 'transactionID:362'
```

Since **Called-Station-ID** is present, this is an **authorization** (or **second authentication**) request. The purpose is to determine whether the account is allowed to call this phone number and what the maximum allowed call duration is.

```
Jun 05 18:06:13: h323-conf-id=465F5B2B F42F11DA 8274BDD0 75CFFB2D/4, call-id=
Jun 05 18:06:13: Found a call in cache with such id
Jun 05 18:06:13: Copied account: 59153211058[96,debit,balance=10.00000] of
customer SmartCall SRL [20,balance=0.00000,limit=none] from '193.28.87.3' into
the current request
```

Thanks to the PortaBilling call cache, you do not need to look up the account in the database once again.

```
Jun 05 18:06:13: Checking if this call comes through a VoIP from vendor
connection
Jun 05 18:06:13: No VoIP from vendor connections were found
Jun 05 18:06:13: Account 59153211058 is already logged in, same session
Jun 05 18:06:13: Account has an empty password, skip the password check
Jun 05 18:06:13: Applying override translation rule on CLD ...
Jun 05 18:06:13: Translation 's/^\*3164\*//' applied: '16046282508' unchanged
```

Internal PortaBilling number translation.

```
Jun 05 19:34:28: Applying customer dialing translation rule on CLD ...
Jun 05 19:34:28: Translation 'local_to_e164($_,{cc=>'420',ip=>'00'});#% cc=420
ip=00' applied: '0016046282508' -> '16046282508'
```

The customer's translation rule is now applied, i.e. the number is converted from the format the customer dialed (with 00) into E.164 format.

```
Jun 05 18:06:13: Setting up a new charge with tariff 'SmartCall Prepaid' ...
Jun 05 18:06:13: Checked 2006-06-06 03:06:13 Europe/Prague against 'hr{21-7}
wd{mo-fr }, wd{sa su }': 1
```

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

```
Jun 05 18:06:13: Start of call is peak level 1
```
Off-peak period check: yes, off-peak rates will be applied to this call.
```
Jun 05 18:06:13: PrepareNexecute 'GetPricePerDestination*'
Jun 05 18:06:13: Compute maximum call duration for leg Account 59153211058 to
destination with funds 10.00000 (account funds 10.00000)
```
Based on the account's current balance, the maximum call duration is calculated.
```
Jun 05 18:06:13: Maximum call duration: 9840 announced as 12000
(!+0.1+164x60x0.05+0*20%) by rate 93 using 10649831771 as seed
```
Because the rate uses tricky options, the announced call duration is different from the real call duration.
```
Jun 05 18:06:13: Limited call duration for Debit account - enhance call
lifetime with 9900s to Mon Jun  5 20:51:13 2006
Jun 05 18:06:13: Enhance lifetime with 1800s to Mon Jun  5 20:51:13 2006
Jun 05 18:06:13: Authentication acknowledge response
h323-billing-model              = 1
h323-ivr-in                     = Tariff:SmartCall Prepaid
h323-ivr-in                     = PortaBilling_CLI:14257891107
h323-ivr-in                     = PortaBilling_CompleteNumber:16046282508
h323-ivr-in                     = DURATION:9840
h323-return-code                = 0
h323-currency                   = USD
h323-credit-time                = 12000
h323-preferred-lang             = en
Jun 05 18:06:13: ...Done.
```
This completes processing for the request.

```
Jun 05 18:09:03: Processing request (BE ver1.245.2.4,pid85499):
NAS-IP-Address                  = '193.28.87.3'
NAS-Port-Name                   = 'ISDN 2:D:23'
NAS-Port-Type                   = 'Async'
User-Name                       = '59153211058'
Called-Station-Id               = '16046282508'
Calling-Station-Id              = '14257891107'
Acct-Status-Type                = 'Stop'
Service-Type                    = 'Login-User'
h323-gw-id                      = 'begemot.'
h323-call-origin                = 'answer'
h323-call-type                  = 'Telephony'
```
Call origin and call type define which call leg you are receiving information about.
```
h323-setup-time                 = '04:04:44.226 EEST Tue Jun 6 2006'
h323-connect-time               = '04:04:44.238 EEST Tue Jun 6 2006'
h323-disconnect-time            = '04:09:03.223 EEST Tue Jun 6 2006'
```
The three attributes above define call initiation, call connect and call disconnect time, respectively.
```
h323-disconnect-cause           = '10'
```
This call was disconnected normally (the user hung up).
```
h323-voice-quality              = '0'
h323-conf-id                    = '465F5B2B F42F11DA 8274BDD0 75CFFB2D'
Acct-Session-Id                 = '0000063E'
Acct-Input-Octets               = '129836'
Acct-Output-Octets              = '272020'
Acct-Input-Packets              = '7387'
Acct-Output-Packets             = '8398'
Acct-Session-Time               = '259'
Acct-Delay-Time                 = '0'
h323-incoming-conf-id           = '465F5B2B F42F11DA 8274BDD0 75CFFB2D'
subscriber                      = 'RegularLine'
gw-rxd-cdn                      = 'ton:0,npi:0,#:4041234567'
calling-party-category          = '9'
transmission-medium-req         = '0'
h323-ivr-out                    = 'PortaBilling_Session:unlock'
h323-ivr-out                    = 'Tariff:Unknown'
release-source                  = '4'
gw-rxd-cgn                      = 'ton:0,npi:0,pi:1,si:0,#:14257891107'
gw-collected-cdn                = '16046282508T'
```

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

```
charged-units                   = '0'
disconnect-text                 = 'normal call clearing (16)'
peer-address                    = '14257891107'
info-type                       = 'speech'
peer-id                         = '710'
peer-if-index                   = '218'
logical-if-index                = '126'
acom-level                      = '20'
coder-type-rate                 = 'g729br8'
noise-level                     = '4294967237'
voice-tx-duration               = '136050 ms'
tx-duration                     = '154970 ms'
Acct-Authentic                  = 'RADIUS'
NAS-Port                        = '0'
Exec-Program-Log                = 'porta-billing.pl'
Jun 05 18:09:03: h323-conf-id=465F5B2B F42F11DA 8274BDD0 75CFFB2D/4, call-id=
Jun 05 18:09:03: Found a call in cache with such id
Jun 05 18:09:03: Copying access CLD '4041234567' into request's
PortaBilling_Original_CLD attribute
Jun 05 18:09:03: Copied account: 59153211058[96,debit,balance=9.7] of customer
SmartCall SRL [20,balance=0.00000,limit=none] from '193.28.87.3' into the
current request
Jun 05 18:09:03: PrepareNexecute 'GetActiveLegIdByAcct'
Jun 05 18:09:03: PrepareNexecute 'DeleteActiveLeg'
Jun 05 18:09:03: Force unlock requested by NAS
Jun 05 18:09:03: Scheduling 59153211058 for logout, call lifetime reduced to 15
```

For the answer/telephony call leg, the account (debit card) session is unlocked, since the customer hung up the incoming session; thus there will be no more outgoing calls.

```
Jun 05 18:09:03: Set lifetime with 15s to Mon Jun  5 18:09:18 2006
Jun 05 18:09:03: Looking up vendor/connection
Jun 05 18:09:03: Trying to match connection for call
Jun 05 18:09:03: Looking for a connection Telephony/answer
```

Checking for a PSTN from Vendor connection.

```
Jun 05 18:09:03: Telephony, matching by the node IP '193.28.87.3', port 'ISDN
2:D:23' and CLD '4041234567'
Jun 05 18:09:03: Unknown node IP or no telephony connections for this node
Jun 05 18:09:03: Connection to vendor not found
Jun 05 18:09:03: No connection from vendor
Jun 05 18:09:03: Accounting response
Jun 05 18:09:03: ...Done.
```

This completes processing for the request.

```
Jun 05 18:09:03: Processing request (BE ver1.245.2.4,pid85499):
NAS-IP-Address                  = '193.28.87.3'
User-Name                       = '59153211058'
Called-Station-Id               = '16046282508'
Calling-Station-Id              = '14257891107'
Acct-Status-Type                = 'Stop'
Service-Type                    = 'Login-User'
h323-gw-id                      = 'begemot.'
h323-call-origin                = 'originate'
h323-call-type                  = 'VoIP'
h323-setup-time                 = '04:06:19.533 EEST Tue Jun 6 2006'
h323-connect-time               = '04:06:24.481 EEST Tue Jun 6 2006'
h323-disconnect-time            = '04:09:03.211 EEST Tue Jun 6 2006'
h323-disconnect-cause           = '10'
h323-voice-quality              = '16'
h323-conf-id                    = '465F5B2B F42F11DA 8274BDD0 75CFFB2D'
call-id                         = '7F2FD63F-F42F11DA-8277BDD0-
75CFFB2D@193.28.87.3'
Acct-Session-Id                 = '00000640'
Acct-Input-Octets               = '158500'
Acct-Output-Octets              = '129836'
```

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

```
Acct-Input-Packets              = '7925'
Acct-Output-Packets             = '7387'
Acct-Session-Time               = '159'
Acct-Delay-Time                 = '0'
h323-incoming-conf-id           = '465F5B2B F42F11DA 8274BDD0 75CFFB2D'
subscriber                      = 'RegularLine'
session-protocol                = 'sipv2'
gw-rxd-cdn                      = 'ton:0,npi:0,#:444444444'
h323-ivr-out                    = 'PortaBilling_Original_CLD:444444444'
h323-ivr-out                    = 'PortaBilling_Seed:10649791024'
h323-ivr-out                    = 'PortaBilling_Session:unlock'
h323-remote-address             = '70.68.128.186'
release-source                  = '4'
remote-media-address            = '70.68.128.186'
gw-rxd-cgn                      = 'ton:0,npi:0,pi:1,si:0,#:14257891107'
gw-collected-cdn                = '16046282508T'
gw-final-xlated-cdn             = 'ton:0,npi:0,#:16046282508'
gw-final-xlated-cgn             = 'ton:0,npi:0,pi:1,si:0,#:14257891107'
charged-units                   = '0'
disconnect-text                 = 'normal call clearing (16)'
peer-address                    = '16046282508'
info-type                       = 'speech'
peer-id                         = '910'
peer-if-index                   = '225'
logical-if-index                = '0'
codec-bytes                     = '20'
coder-type-rate                 = 'g729br8'
ontime-rv-playout               = '154850'
remote-udp-port                 = '5060'
remote-media-udp-port           = '35422'
vad-enable                      = 'disable'
receive-delay                   = '57 ms'
round-trip-delay                = '364 ms'
hiwater-playout-delay           = '97 ms'
lowater-playout-delay           = '57 ms'
gapfill-with-interpolation      = '0 ms'
gapfill-with-prediction         = '610 ms'
gapfill-with-redundancy         = '0 ms'
gapfill-with-silence            = '20 ms'
early-packets                   = '14'
late-packets                    = '23'
lost-packets                    = '2'
Acct-Authentic                  = 'RADIUS'
Exec-Program-Log                = 'porta-billing.pl'
Jun 05 18:09:03: h323-conf-id=465F5B2B F42F11DA 8274BDD0 75CFFB2D/4, call-
id=7F2FD63F-F42F11DA-8277BDD0-75CFFB2D@193.28.87.3/4
Jun 05 18:09:03: Found a call in cache with such id
Jun 05 18:09:03: Copied account: 59153211058[96,debit,balance=10.00000] of
customer SmartCall SRL [20,balance=0.00000,limit=none] from '193.28.87.3' into
the current request
Jun 05 18:09:03: PrepareNexecute 'GetActiveLegIdByAcct'
Jun 05 18:09:03: PrepareNexecute 'DeleteActiveLeg'
Jun 05 18:09:03: Force unlock requested by NAS
Jun 05 18:09:03: Scheduling 59153211058 for logout, call lifetime reduced to 15
Jun 05 18:09:03: Logging out account '59153211058'(96) from '465F5B2B F42F11DA
8274BDD0 75CFFB2D'
Jun 05 18:09:03: Set lifetime with 15s to Mon Jun  5 18:09:18 2006
Jun 05 18:09:03: Looking up vendor/connection
Jun 05 18:09:03: Trying to match connection for call
Jun 05 18:09:03: Looking for a connection VoIP/originate
Jun 05 18:09:03: Outgoing VoIP, matching by the remote IP address
'70.68.128.186' (env 4)
Jun 05 18:09:03: Found connection 3 'X-Telecom Termination' to vendor 'X-
Telecom'
```

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Connection found, so the call should be billed.

```
Jun 05 18:09:03: Found vendor/connection
Jun 05 18:09:03: Charging call ...
Jun 05 18:09:03: Checked 2006-06-06 03:06:24 Europe/Prague against 'hr{21-7}
wd{mo-fr }, wd{sa su }': 1
Jun 05 18:09:03: Start of call is peak level 1
Jun 05 18:09:03: End of call is peak level 1
```

Verifying whether peak or off-peak rate should be applied.

```
Jun 05 18:09:03: Can reuse the already initialized charge.
Jun 05 18:09:03: Calculating account's charge by tariff 'SmartCall Prepaid'
Jun 05 18:09:03: Call to '16046282508' with duration 159 seconds will be
charged for 180 seconds and cost is 0.3 (0.1+3x60x0.05+20%) by rate 93 using
10649831771 as seed
```

The account charge is calculated; note that, in addition to normal per-minute charges, a connection fee and a post-call surcharge have been applied.

```
Jun 05 18:09:03: Setting up a new charge with tariff 'Termination to X-Telecom'
...
Jun 05 18:09:03: Using peak rate, since no off-peak is defined
Jun 05 18:09:03: PrepareNexecute 'GetPricePerDestination*'
Jun 05 18:09:03: Calculating vendor's charge by tariff 'Termination to X-
Telecom
```

Now your termination costs to the vendor are calculated.

```
Jun 05 18:09:03: Call to '16046282508' with duration 159 seconds will be
charged for 162 seconds and cost is 0.064 (1x30x0.02+22x6x0.02) by rate 92
using 10649831771 as seed
Jun 05 18:09:03: Charging account for the call
Jun 05 18:09:03: Inserting CDR
Jun 05 18:09:03: PrepareNexecute 'InsertAccountCDR'
Jun 05 18:09:03: Charging debit account 59153211058 0.3
Jun 05 18:09:03: PrepareNexecute 'UpdateDebitAccountBalance'
```

The CDR is inserted and the account's balance is modified.

```
Jun 05 18:09:03: Debit account of retail customer, bill only the account
```

Since this is a debit account, the customer's balance is not affected.

```
Jun 05 18:09:03: Charging vendor for the call
Jun 05 18:09:03: Charging vendor 3 'X-Telecom' 0.064
Jun 05 18:09:03: Inserting CDR
Jun 05 18:09:03: PrepareNexecute 'InsertVendorCDR'
Jun 05 18:09:03: PrepareNexecute 'UpdateVendorBalance'
```

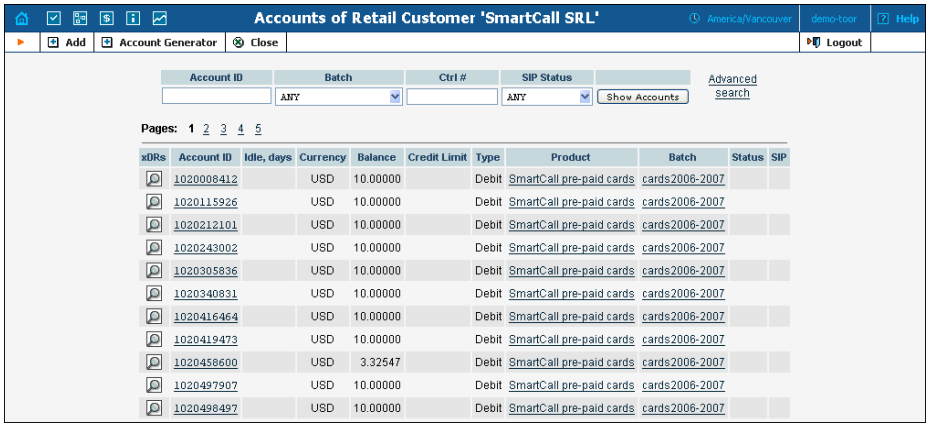
The CDR is inserted and the vendor's balance is modified.

```
Jun 05 18:09:03: Accounting response
Jun 05 18:09:03: ...Done.
```

Verify call history for an account

To view the xDR of an account, go to Customers, select the Customer owning the accounts, and click on the Accounts icon; or, alternatively, select the Account Info link from the Main Menu. You can also go to the account self-care page (accessible via the **Accounts** menu item in the **Home** popup menu). The only difference is that account's owner does not have the option of seeing incomplete (failed) calls when using the self-care pages.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com


Accounts of Retail Customer 'SmartCall SRL'
America/Vancouver
demo-toor
Help
Add
Account Generator
Close
Logout
Account ID
Batch
Ctrl #
SIP Status
ANY
ANY
Show Accounts
Advanced search
Pages: 1 2 3 4 5
xDRs Account ID Idle, days Currency Balance Credit Limit Type Product Batch Status SIP
1020008412 USD 10.00000 Debit SmartCall pre-paid cards cards2006-2007
1020115926 USD 10.00000 Debit SmartCall pre-paid cards cards2006-2007
1020212101 USD 10.00000 Debit SmartCall pre-paid cards cards2006-2007
1020243002 USD 10.00000 Debit SmartCall pre-paid cards cards2006-2007
1020305836 USD 10.00000 Debit SmartCall pre-paid cards cards2006-2007
1020340831 USD 10.00000 Debit SmartCall pre-paid cards cards2006-2007
1020416464 USD 10.00000 Debit SmartCall pre-paid cards cards2006-2007
1020419473 USD 10.00000 Debit SmartCall pre-paid cards cards2006-2007
1020458600 USD 3.32547 Debit SmartCall pre-paid cards cards2006-2007
1020497907 USD 10.00000 Debit SmartCall pre-paid cards cards2006-2007
1020498497 USD 10.00000 Debit SmartCall pre-paid cards cards2006-2007

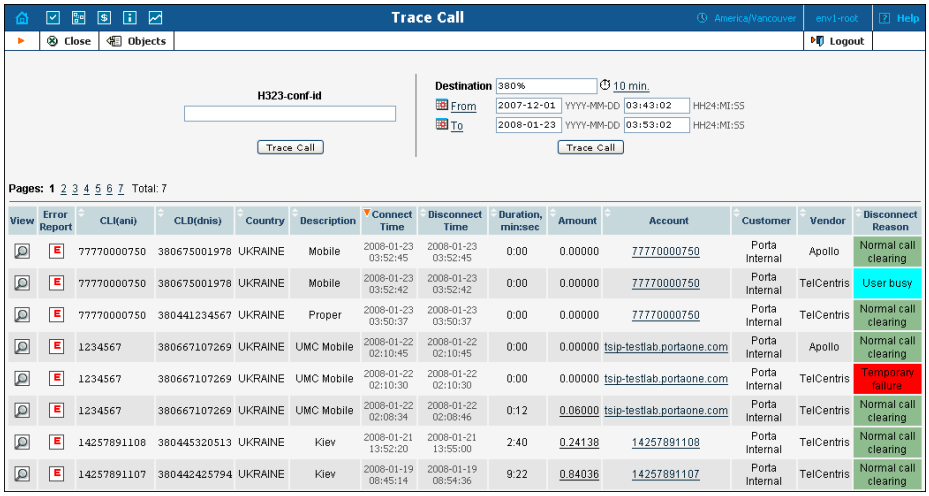
Login with the account's web access login and password. After that you will be able to see the account's self care menu.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Choose the date range for which you want to see a list of calls, and click **Show xDR.** In the results table you will see call charges and other fees, such as maintenance fees or refunds (if any). The report can be also downloaded by clicking the **Download** icon.

Check call history

If you want to see a list of all calls going through the system, or perhaps only those for some particular destination, you can do this in **Trace a Call**.



View	Error Report	CLI(ani)	CLD(dnis)	Country	Description	Connect Time	Disconnect Time	Duration, min:sec	Amount	Account	Customer	Vendor	Disconnect Reason
		77770000750	380675001978	UKRAINE	Mobile	2008-01-23 03:52:45	2008-01-23 03:52:45	0:00	0.00000	77770000750	Porta Internal	Apollo	Normal call clearing
		77770000750	380675001978	UKRAINE	Mobile	2008-01-23 03:52:42	2008-01-23 03:52:42	0:00	0.00000	77770000750	Porta Internal	TelCentris	User busy
		77770000750	380441234567	UKRAINE	Proper	2008-01-23 03:50:37	2008-01-23 03:50:37	0:00	0.00000	77770000750	Porta Internal	TelCentris	Normal call clearing
		1234567	380667107269	UKRAINE	UMC Mobile	2008-01-22 02:10:45	2008-01-22 02:10:45	0:00	0.00000	tsip-testlab.portaone.com	Porta Internal	Apollo	Normal call clearing
		1234567	380667107269	UKRAINE	UMC Mobile	2008-01-22 02:10:30	2008-01-22 02:10:30	0:00	0.00000	tsip-testlab.portaone.com	Porta Internal	TelCentris	Temporary failure
		1234567	380667107269	UKRAINE	UMC Mobile	2008-01-22 02:08:34	2008-01-22 02:08:46	0:12	0.06000	tsip-testlab.portaone.com	Porta Internal	TelCentris	Normal call clearing
		14257891108	380445320513	UKRAINE	Kiev	2008-01-21 13:52:20	2008-01-21 13:55:00	2:40	0.24138	14257891108	Porta Internal	TelCentris	Normal call clearing
		14257891107	380442425794	UKRAINE	Kiev	2008-01-19 08:45:14	2008-01-19 08:54:36	9:22	0.84036	14257891107	Porta Internal	TelCentris	Normal call clearing

- In the "Helpdesk" section of Admin-Index, choose **Trace a Call**
- Fill in the check phone number form:
  - **h323-conf-id** – If you need to trace a specific call, enter the h323-conf-id here; otherwise leave this empty.
  - **Destination** – The phone number you are looking for or a destination pattern (first digits and a percent sign, for example **420%**).
  - **From, To Date –** The date range.
- Click **Trace Call**.

Advantage of this method: You can see all call attempts, including unsuccessful calls, with disconnect reasons displayed. Also, you can see the billing history for a call.

For administrator convenience, accounts' xDRs can be also reached from the Account Management window by clicking the **xDRs** icon for an account.

Common Symptoms/Problems

Common Symptom/Problem	Description/Solution

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Radius debug on GW shows requests, but PortaBilling Radius debug does not.	There are several reasons why communication may be unsuccessful: 1. Wrong radius server IP configuration in GW. Verify and correct. 2. Wrong radius port(s) configuration in GW. Verify and correct. 3. IP network problems. Verify that your network is configured correctly, including cables and firewalls.
PortaBilling Radius debug shows requests arriving but says "request from unknown client".	Verify and correct Node IP address in PortaBilling. Consider any propagation delay, which may require 15 minutes.
Arriving PortaBilling Radius debug showing requests displays a "failed to decrypt" message.	Verify if PortaBilling Node Radius key configuration is the same as GW radius key (shared secret).
PortaBilling replies with authentication reject.	Verify product accessibility list and account status.
Debug session looks normal but GW hangs up (or says nothing) after receiving authentication confirmation.	The most common reason for this is the lack of a particular prompt on IVR prompt servers. This situation may occur only for specific monetary or time values.
Account balance not decreased after successful call, and call does not appear in call history.	Verify that the GW is transmitting stop accounting records. Set `accountingtype 2` for Quintum or `gw-accounting h323 vsa` for Cisco.

Advanced prepaid service with roaming

Deploying prepaid card products with roaming is easy with PortaBilling! Just install additional gateways in different geographical locations and enter the corresponding nodes in PortaBilling. Then create tariffs which reflect your service charges for different geographical locations, and extend the product accessibility list using new nodes and tariffs.

Provisioning prepaid accounts

PortaBilling account management is based on batches and control numbers. A batch is a named set of accounts. By giving descriptive names to batches you can keep your accounts well organized. (Examples of batch names: "FLEX CARD 10$", "EASY CALL 5$".) Accounts in each batch

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

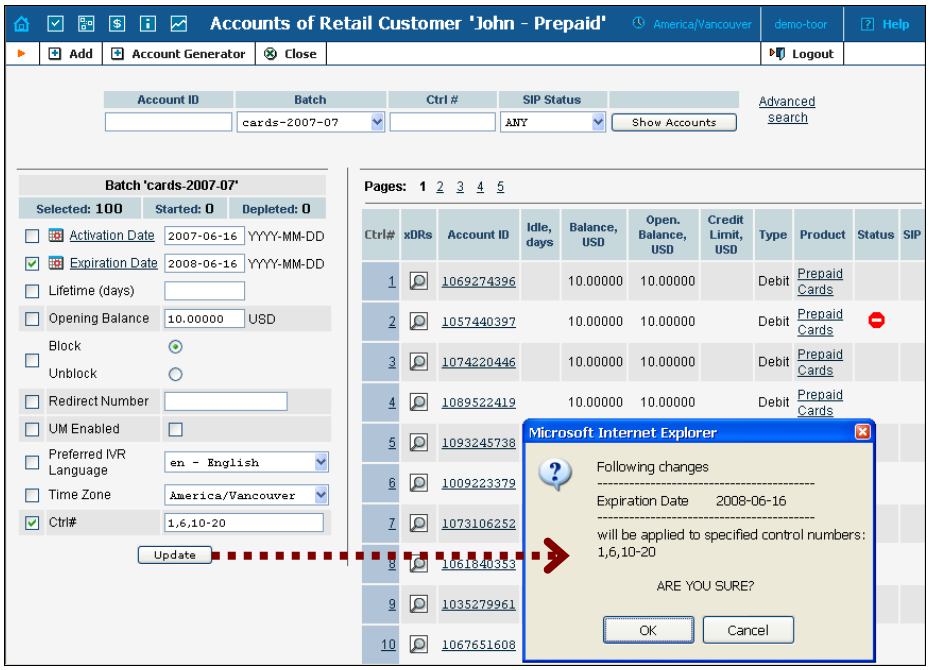
are automatically numbered by control numbers, starting with one. If you are generating more accounts for an existing batch, PortaBilling will continue control number assignment from the next available number in the sequence.

Available account management options:

- Single account
- Whole batch
- batch + list of control numbers
- batch + range of control numbers

It's a good idea to print the batch and control number on the prepaid card and keep a card distribution register, so that later you can block some specific cards in case of fraud, or give extra promotional credit to some customers. You can also distribute all of your cards as blocked, so that the dealer will call your support and request card activation only once the card is sold to a customer. Of course, the dealer should not be able to see the PIN at any time – this is why we need an alternate way of identifying a card, i.e. by batch and control number.

In the Management section of Admin-Index, choose **Customers**, click the accounts link next to the customer, and then select the batch name from the select menu. Or, alternatively, you can go to **Account info** in the main menu and choose the customer and batch you want to work with. You should then see a batch operation screen similar to the one below:



1. On the left side of the screen, click the checkbox next to the fields which you would like to update, and enter the new values.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

2. You can update a whole batch, or only update individual accounts, by entering their control number (or control number range) in the **Ctrl#** field.

TIP: If you click on the control number (leftmost column), it will be automatically inserted into the **Ctrl#** field.

3. Let us assume you would like to unblock accounts and add $5 to their balance. You should then click the checkboxes next to **Modify balance** and **Block/Unblock**, enter the balance adjustment value, and pick the new account status.
4. Click the **Update batch** button.
5. Confirm **OK** in the popup window.

NOTE: Balance adjustment will be reflected in call history as a separate line.

Special features of the PortaOne calling card application

Here is a list of features not available in Cisco's standard calling card application (`app_debitcard.2.0.2.8.tcl`), including information on how they can be configured in the PortaOne IVR.

Credit account support

PortaOne's IVR application can work with both debit and credit accounts. For credit accounts, the amount of available funds, computed by PortaBilling as `(credit_limit - balance)`, is played. So for an account with a credit limit of $100 and a balance of $75, the amount of available funds is $25. If both an account and a customer have been assigned a credit limit, then the available funds for the account and customer will be computed according to this same formula, with the smaller amount returned to the IVR.

ANI authentication

PortaOne's IVR application can perform authentication using the ANI number of an incoming call leg. If authentication is successful, the IVR does not ask for a PIN, and starts with the balance announcement.

Configuration syntax:

```
call application voice <app-name> ani-authentication <yes|no>
```

Example:

```
call application voice porta ani-authentication yes
```

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Normally, if ANI authentication fails the IVR will prompt the user to enter a PIN number. However, this may be disabled so that the script is then used to provide ANI-only service.

Configuration syntax:
```
call application voice <app-name> card-authentication <yes|no>
```

Example:
```
call application voice porta card-authentication no
```

Number translation and abbreviated dialing expansion

As a part of the authorization process, the IVR application receives a translated destination number from PortaBilling and then initiates an outgoing call to this number (instead of the one originally dialed by the customer). This permits the following:

- Applying various number translation schemes on the billing side, e.g. the same access number and the same IVR application can be used for customers with different dialing habits. Customer A may dial the phone number as 0114202123456, while customer B dials it as 004202123456. PortaBilling will apply the respective customer's translation rules and return the normalized number 4202123456. This significantly simplifies configuration of outgoing dial-peers on your Cisco gateway, since outgoing calls are always in the same format.
- Translating short dialed numbers (e.g. 101) into complete phone numbers according to a list of dialing abbreviations defined for the customer.

Multi-currency support

The default Cisco application will always play only one currency, i.e. that associated with the specific language. You can change the TTS module configuration so that "dollars" will be played for English and "crowns" for Czech, but you cannot allow customers with balances in dollars and pounds to access the same gateway and work with the English IVR, as some of them are bound to hear the wrong currency name.
PortaOne's IVR application, in tandem with PortaOne TTS modules, can dynamically switch the currency announced based on the currency code (`h323-currency`) for a particular account supplied by the billing. This allows you to use the same access number for products in different currencies.

Configuration syntax:
```
call application voice <app-name> multi-currency <yes|no>
```

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

(the default setting is no)

Example:
```
call application voice porta multi-currency yes
```

Balance announcement suppression

This allows you to disable announcement of an account's current balance, and instead proceed to prompt for the destination number.

Configuration syntax:
```
call application voice <app-name> balance-suppression <yes|no>
```

Example:
```
call application voice porta balance-suppression yes
```

Time announcement suppression

This allows you to disable announcement of the maximum allowed call duration, and instead just start connecting the call.

Configuration syntax:
```
call application voice <app-name> time-suppression <yes|no>
```

Example:
```
call application voice porta time-suppression yes
```

Last number redial

The customer may redial the last number by simply pressing the star key (*) when beginning to enter the destination number.

NOTE: Once you have already entered some digits of the destination number, the star key may be used to reset the current entry and start entering the phone number from the beginning.

Configuration syntax:
```
call application voice <app-name> redial-enable <yes|no>
```

Example:
```
call application voice porta redial-enable yes
```

Disallow calls when balance is too low

If an account's current balance is lower than the breakage threshold specified in the product configuration, the IVR may disable outgoing calls. There are two ways to block outgoing calls:

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

- Play an announcement and disconnect the incoming call leg.
- Allow the user to dial the destination number, but do not actually initiate the outgoing call, giving just a fast busy signal instead.

Configuration syntax:

```
call application voice <app-name> check-low-balance
<disconnect|nocalls|no>
```

Example:

```
call application voice porta check-low-balance nocalls
```

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

2. Prepaid Card Reseller Services

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Setting up a prepaid card reseller service

This is very similar to the general prepaid set-up described above. Only a few additional comments are necessary:

- Resellers are not allowed to create new tariffs or products. In addition to security considerations, this is because accessibility to a product must be configured in order to create it properly. The person doing this must be well-acquainted with your VoIP network structure (gateways, access lines, etc). Your reseller will not have this knowledge; in fact you will probably not even want to share such information with him. Therefore, your admin staff will create tariffs and products for him, and configure the products' accessibility.
- The correct sequence of actions is as follows:
  1. Create the tariff you will use to charge the resellers (**Ordinary** type).
  2. Create the customer as a reseller, assigning this tariff to him.
  3. Create tariffs and products for his subscribers, making sure that you mark them as **Managed by** that customer.
- For improved security, resellers are not able to view their own rates on the web interface, so that you are in control when informing them of rate changes. For example, at the beginning of the month you may choose to enter a rate change effective the first day of the following month; however, you can notify the customer of this only one week in advance.

Please use the checklist on the following page to ensure that you have performed all the required operations in the correct sequence.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Checklist

Print the following page and use it to mark the operations you have completed while performing system setup according to the instructions in this chapter. Please make sure that you perform all of the operations (all of the boxes must be checked), otherwise the service will not work.

Operations to be performed as an administrator

Operation	Done
General and network configuration	
Perform the general and network configuration as described in the *Basic prepaid service* section	[ ]
Rating configuration	
Create a tariff A, which will contain the wholesale rates you apply to your reseller	[ ]
Insert rates in tariff A for the destinations to which you will allow your reseller to send calls	[ ]
Create a customer class to be applied to your resellers	[ ]
Create a reseller and apply tariff A to him on the Additional Info tab	[ ]
Specify a username and password for the reseller to access the self-care interface	[ ]
Create a tariff B, which will be applied to your reseller's subscribers; make sure this tariff is marked as "Managed by" the reseller	[ ]
Create a prepaid product to be used by your reseller; make sure this product is marked as "Managed by" the reseller	[ ]
Create one accessibility entry for this product, using the node you created earlier and tariff B	[ ]
Perform vendor configuration according to the instructions in the *Basic prepaid service* section	[ ]

Operations to be performed as a reseller

Account provisioning	
Go to the customer self-care web page and log in using the credentials provided	[ ]
Insert rates in tariff B for the destinations to which you will allow your subscribers to send calls	[ ]
Create a subcustomer who owns the prepaid cards	[ ]
Generate accounts for this subcustomer	[ ]
Testing	
Try to make a test call	[ ]

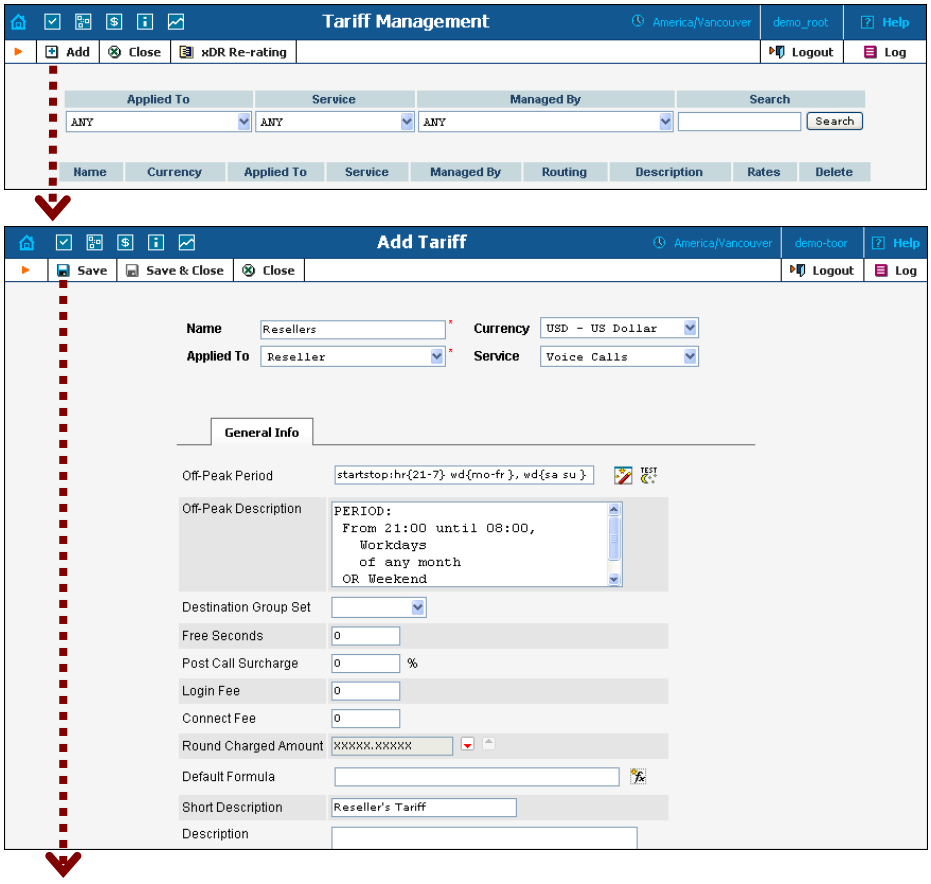
© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

General and Network Configuration for PortaBilling

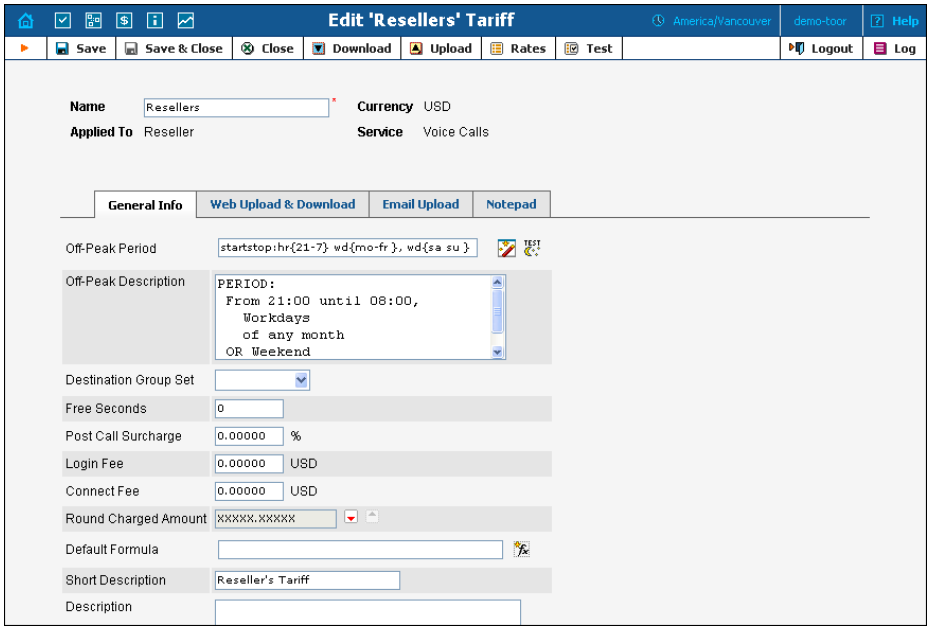
Please follow the steps described in the *Basic prepaid service* chapter.

Create a Tariff for Charging the Reseller

This tariff will be used to charge the reseller, so it should contain your selling rates for the reseller.



© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com



In the Management section of Admin-Index, choose **Tariffs**.

1. On the Tariff Management page, choose **Add**.
2. Fill in the **New Tariff** form:
   - **Name** – Short name of the tariff object. This is the name you will see later in the select menus.
   - **Currency** – Choose the currency in which you will charge your reseller.

NOTE: The currency for the tariff is chosen only once, and cannot be changed later.

   - **Applied To** – Choose **Reseller** here.
   - **Service** – Choose **Voice Calls** here.
   - **Off-peak Period** – Defines the off-peak period. Click on the Off-peak period wizard icon to summon the wizard, which will help you construct the correct period definition. Click **Help** to get more information on period format definition. If you do not differentiate between peak and off-peak rates, just leave this field blank.
   - **Off-peak Description** – Description of the off-peak period, automatically filled in by the off-peak period wizard. You do not have to fill in this field.
   - **Destination Group Set** – If you wish to enter rates in the tariff not for each individual prefix, but for a whole group of prefixes at once, you should create a destination group set and destination groups beforehand. Leave this select menu empty for now.
   - **Free Seconds** – The number of free seconds granted for each call. In order to claim free seconds, the length of the call must be at least one billing unit (first interval; see the *Enter Rates* section above).

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

- **Post-Call Surcharge** – Percentage of the amount charged for the call.
- **Login Fee** – Amount to be charged immediately after the first user authentication (i.e. after the user enters his PIN).
- **Connect Fee** – Amount to be charged for each connected call (with a non-zero duration).
- **Round Charged Amount** – Instead of calculating xDRs with a 5-decimal-place precision, round up xDR amount values (e.g. XXXXX.XX000 means rounding to cents, so that 1.16730 becomes 1.17).
- **Default Formula** – The default rating formula which will be applied to every new rate created in the tariff. If you leave this empty, "old-style" rating will be used.
- **Short Description** – A short tariff description. This will be shown in the rate lookup on the admin interface and the self-care pages for your accounts and customers. For example, for a tariff named Cust-ABC-Easy Call-1800, the short description will provide better information for your reseller ABC, who will be using this tariff, such as: "EasyCall – via a toll-free number".
- **Description** – Extended tariff description.

3. Click **Save.**
4. Repeat steps 1-3 until you have entered all of the tariffs.

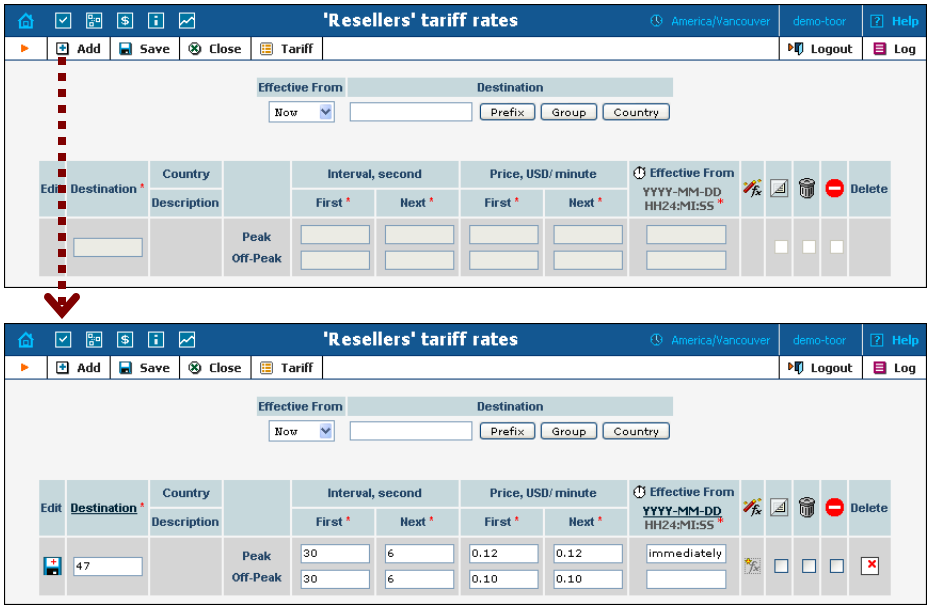
© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Enter Rates

Rates are per-destination prices. Please refer to the *System Concepts* chapter in the **PortaBilling Administrator Guide** for more details on billing parameters.

Managing rates online

Managing rates online is very convenient for maintaining existing rate tables, as well as for reference purposes. In the case of new price lists or major updates, the offline method is better.



1. On the Tariff Management page you will see a list of available tariffs. Click the **Rates** icon next to the name of the tariff. When you are in Tariff Management for a particular tariff, click on **Rates** in the toolbar.
2. In the **Edit Rates** screen, click **Add.**
3. Fill in the required information:
   - **Destination** – The destination prefix may be entered directly, e.g. **47** for Norway, or you can access the destinations directory by clicking the **Destination** link (in the column header). Here you can find the desired prefix by country name.

NOTE: The phone prefix you are trying to create a rate for must already exist in Destinations.

   - **Interval First** – First billing unit in seconds.
   - **Interval Next** – Next billing unit in seconds.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

- **Price First** – Per-minute price for first interval.
- **Price Next** – Per-minute price for next interval.
- **Off-peak Interval First**– First billing unit in seconds for off-peak time.
- **Off-peak Interval Next** – Next billing unit in seconds for off-peak time.
- **Off-peak Price First** – Per-minute price for first interval of off-peak time.
- **Off-peak Price Next** – Per-minute price for next interval of off-peak time.

NOTE: Off-peak fields appear only if an **off-peak period** has been defined for the tariff.

- **Effective From** – If you want this rate to take effect sometime in the future, you can either type in a date manually, or use the calendar (click the DD-MM-YYYY link).

NOTE: When using the calendar, you can specify that the date you are entering is in a different time zone than your current one. PortaBilling will then automatically adjust the time.

- **Rate Formula Wizard** – Launches the wizard for creating a custom rating formula
- **Hidden**, **Forbidden** or **Discontinued** – These flags are optional.

4. Click the **Save** button in the toolbar, or the icon on the left end of the row.
5. Repeat if you need to enter more rates.

Managing rates offline

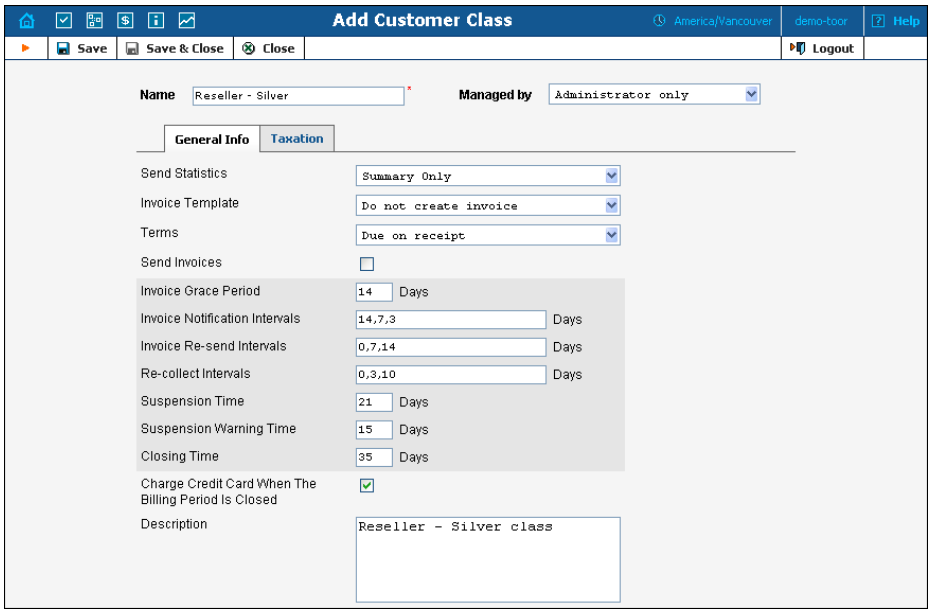
This step is identical to the one previously described in the *Basic prepaid service* chapter.

Create a Customer Class

Customer class provides the ability to define a group of parameters in a centralized way, then apply those parameters to many customers at once. (If you have already created a customer class that you can use for prepaid card distributors, skip this step and go to the next one.)

1. In the Management section of the Admin interface, choose **Customer Classes**.
2. On the Customer Class Management page, choose **Add**.

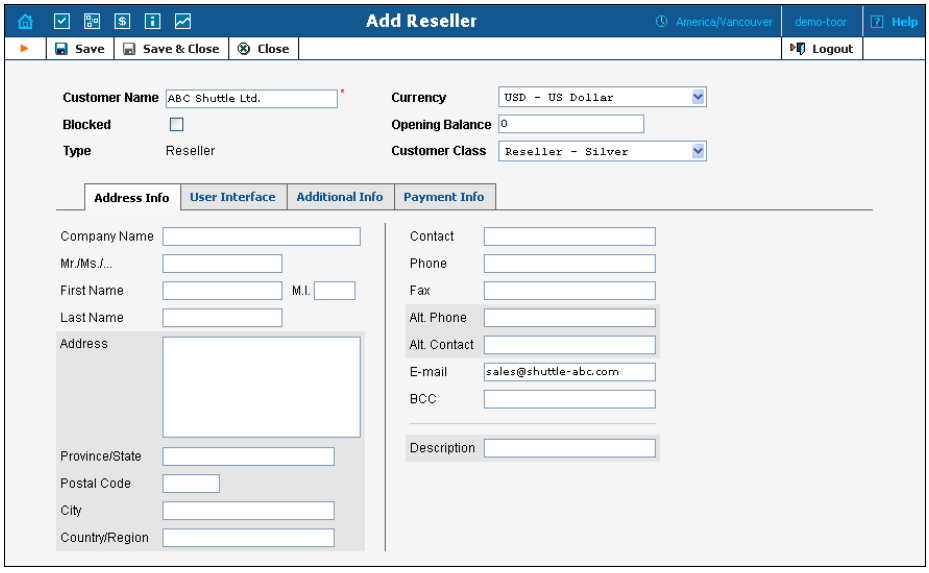
© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com



3. Fill in the **Name** parameter; the other fields can be left empty for now.
4. Click **Save&Close**.

Create a Reseller

The reseller entity you are about to create will define your relationship with a business partner who is reselling your services, and will allow him further independent service management (e.g. creating his own accounts).



In the Management section of Admin-Index, choose **Customers**.

1. On the Customer Management page, choose **Add Reseller**.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

2. Fill in the **New Customer** form. Please note that there are several tabs with extra information available on the screen. The most important fields are:

Main form (top)

- **Name** – Short name for this reseller; this will be used on the web interface.
- **Currency** – The currency in which this reseller will be billed.
- **Opening Balance** – Starting balance for the customer; the default is zero.
- **Customer Class** – Choose the customer class you have created in the previous step

Address Info tab

- **Email** – Make sure you enter the reseller's valid email address here; otherwise he will not be able to receive files with the PINs he generates. Also, once the billing period is over this email address will be used to deliver of a list of xDRs and an invoice to your reseller.
- **Bcc** – Delivery to the specified email address of your account representative a copy of every outgoing email sent to the customer; this may be used for debug and archiving purposes.

Additional Info tab

- **Billing Period** – Frequency of distribution of accounting information. For more details about different available billing periods, see the **PortaBilling Administrator Guide**.
- **Send Statistics – Summary only** – Distribute a call summary only, and do not attach a details file; this might be useful in the case of a large amount of calls. Other options are **full statistics** (attach a complete list of xDRs) or **do not send** (no not deliver call statistics to this customer via email at all).

Payment Info tab

- **Credit Limit** – If left empty, there is no credit limit for this reseller; so you will probably want to enter a value here.

User Interface tab

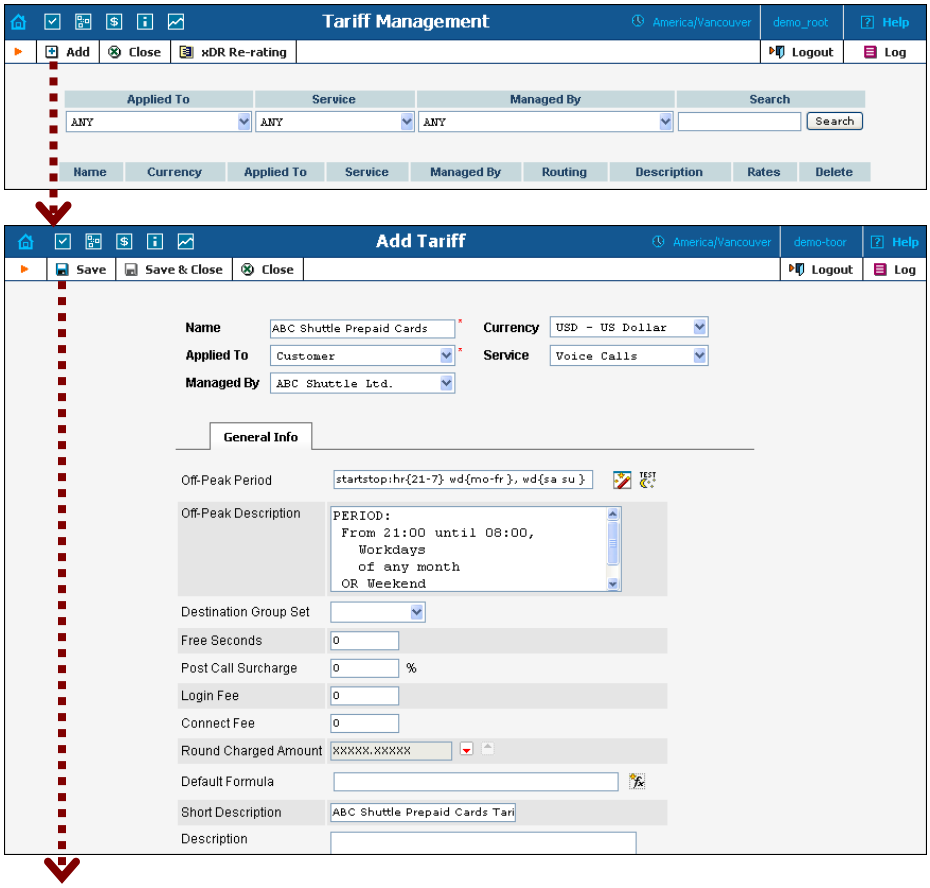
- **Time Zone** – The time zone in which the reseller will see his xDRs, and which will also define his billing period. For example, if you choose **America/New_York** here and the billing period is **Monthly**, the billing period will start on the first day of the month at 00:00 New York time.
- **Web Interface Language** – The language to be used on the customer's self-care web interface.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

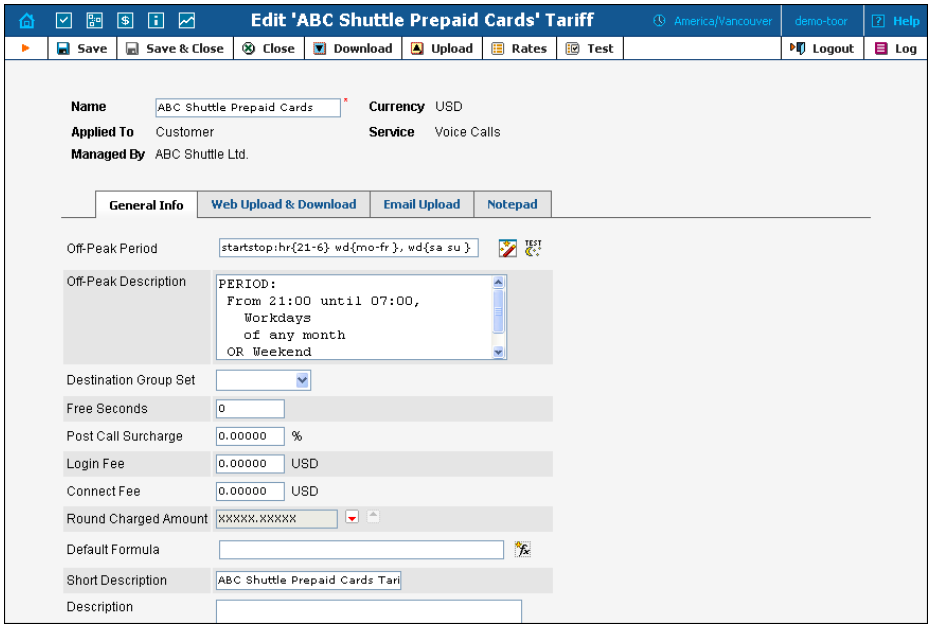
3. Click **Save&Close.**

Create a Tariff for the Reseller

This tariff will be used by the reseller to charge his subcustomers. The reseller will perform the actual tariff configuration on the self-care interface. You just need to provide him with a framework by pre-allocating a tariff.



© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com



In the Management section of Admin-Index, choose **Tariffs**.

1. On the Tariff Management page, choose **Add**.
2. Fill in the **New Tariff** form:
   - **Name** – Short name of the tariff object. This is the name you will see later in the select menus.
   - **Currency** – Choose the currency in which your reseller plans to operate.

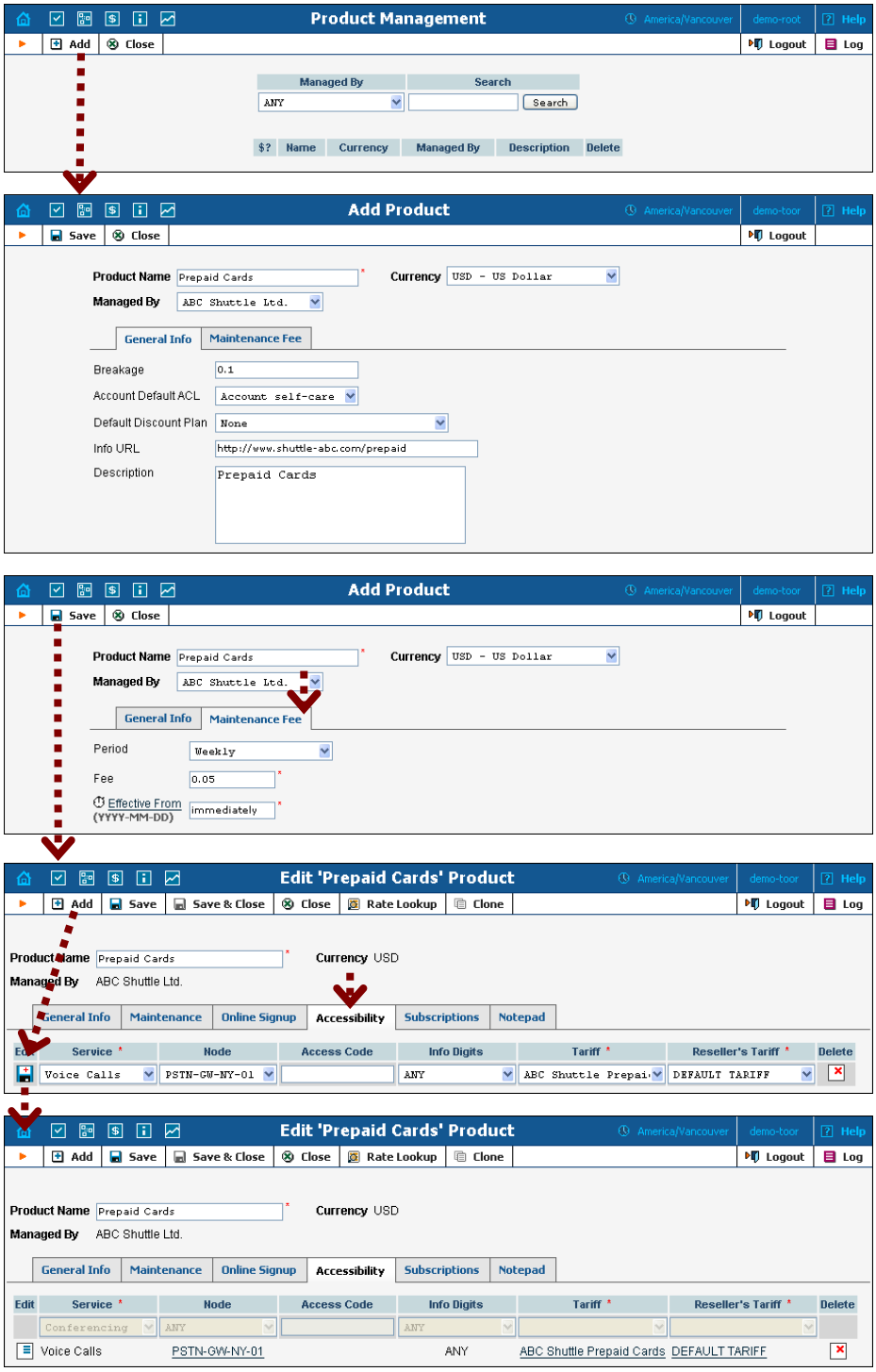
NOTE: The currency for the tariff is chosen only once, and cannot be changed later.

   - **Applied To** – Choose **Customer** here.
   - **Managed By** – Choose your reseller in the list.
   - You may skip all the other parameters, as the reseller will be able to adjust them according to his needs.
   - **Short Description** – A short tariff description which will be understandable to your reseller.
   - **Description** – An extended tariff description.
3. Click **Save.**
4. Repeat steps 1-3 until you have entered all of the tariffs your reseller needs.

Create a Product for the Reseller

As was the case above with tariffs, you need only create a framework for your reseller to enable him to perform further independent product management.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com



In the Management section of the Admin-Index page, choose **Products**.

1. On the Product Management page, click the **Add** icon.
2. Fill in the **Add Product** form:
   - **Product name** – Product object name.
   - **Currency** – Product currency. Only tariffs which have the same currency will be permitted in the accessibility list.
   - **Managed by** – Choose your reseller from the list.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

3. Click **Save.**
4. Click on the **Accessibility** tab to edit this product's accessibility.

Enter node and tariffs into the product's accessibility list

The reseller will not have access to information about your network, and therefore cannot view accessibility information. You may define it for him as follows:

1. With the Accessibility tab selected, click on the **Add** icon.
2. Choose **Voice Calls** in the **Service** select menu.
3. In the Accessibility entry window, select the node where your IVR will be running and choose the appropriate tariff to charge end-users (accounts under this reseller).
4. In the **Reseller's Tariff** drop-down menu, you can also choose which tariff will be used to charge the reseller when an account with this product makes a phone call. By default, the system applies the tariff assigned to the reseller in customer info; but here you can override this and, for instance, bill the reseller according to a higher rate for use of a product requiring higher maintenance on your end.
5. You can also use an access number for Accessibility in the **Access code** field. For example, if you have a node with two access numbers, local (12345) and toll-free (1800 12345), you can set up the product's accessibility in such a way that if a customer calls via a toll-free line, he will be billed using a different tariff (one that includes surcharges).

NOTE: The Access Code feature requires modification of Cisco platform application scripts; see the **Help** item on the Accessibility screen for more information. The Access Code feature on the Quintum platform requires the ACCESSCODE feature (available in the recent firmware).

6. The **Info-digits** menu allows you to apply different tariffs depending on the type of line from which your customers originate calls. If you are unsure whether your telco sends such information, leave the default value ANY.
7. Click **Save** to save this accessibility entry.
8. Repeat steps 1-6 if you want to define more accessibility entries.

Create Vendors

If you have already created vendors as a part of the basic prepaid service setup, you may proceed to the next step. Otherwise, please consult the instructions in the *Create Vendors* section of the *Basic prepaid service* chapter.

Actions to be performed by the Reseller

At this point you have finished with the administrator part of the work. You just need to send the reseller his login credentials for the PortaBilling

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

self-care interface, while the rest of the tasks described below will be performed by the reseller himself. They are listed here for your convenience only; normally the reseller will use the instructions in the self-care guide.

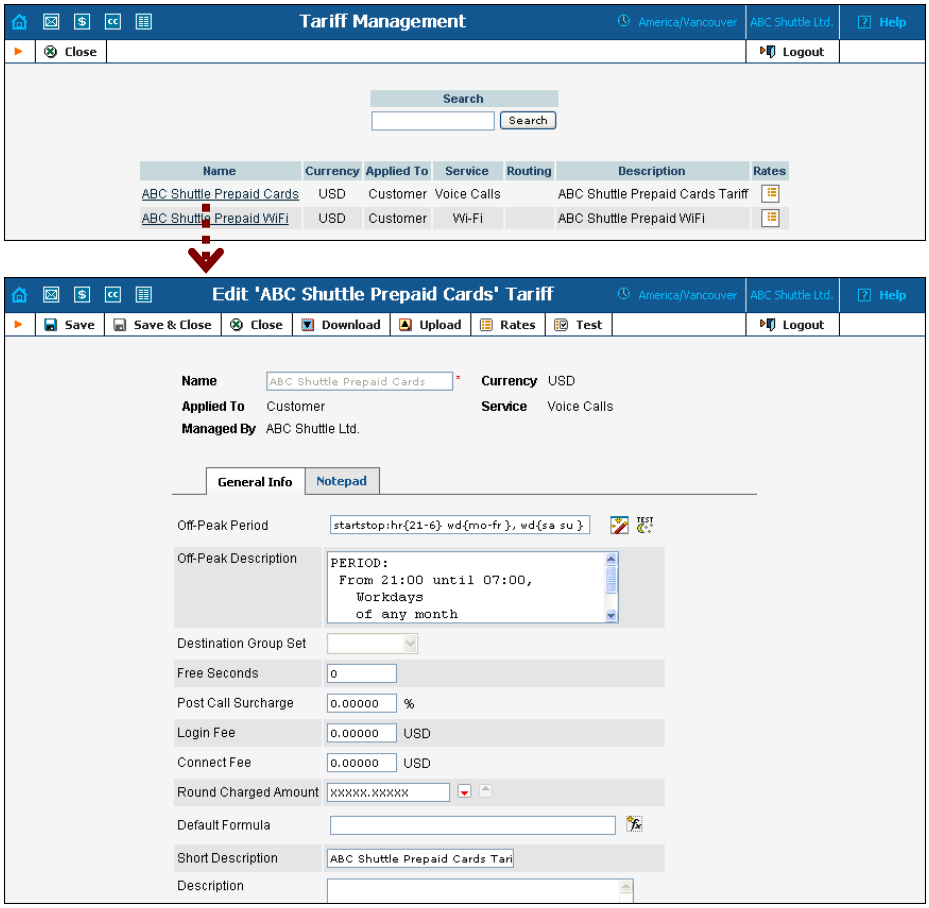
Login to Self-care Interface

Open the customer self-care page in a browser (by default **https://<your-porta-billing-slave-server-name>:8444**) and type in the username/password which was provided to you.

NOTE: Sometimes administrators try pressing the **Logout** button on the admin interface and then logging in using the reseller's username and password. This will not work, since you are still in the admin realm, to which your reseller does not have access. You must login from the customer's self-care interface.

Modify Tariff

The reseller can adjust various parameters of a tariff (e.g. off-peak period or rounding).



In the Management section of Admin-Index, choose **Tariffs**.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

1. On the Tariff Management page, click on the name of the existing tariff.
2. If necessary, modify the tariff parameters:
   - **Off-peak Period** – Defines the off-peak period. Click on the Off-peak period wizard icon ( ) to summon the wizard, which will help you construct the correct period definition. Click **Help** to get more information on period format definition. If you do not differentiate between peak and off-peak rates, just leave this field blank.
   - **Off-peak Description** – Description of the off-peak period, automatically filled in by the off-peak period wizard. You do not have to fill in this field.
   - **Free Seconds** – The number of free seconds granted for each call. In order to claim free seconds, the length of the call must be at least one billing unit (first interval; see the *Enter Rates* section above).
   - **Post-Call Surcharge** – Percentage of the amount charged for the call.
   - **Login Fee** – Amount to be charged immediately after the first user authentication (i.e. after the user enters his PIN).
   - **Connect Fee** – Amount to be charged for each connected call (with a non-zero duration).
   - **Round Charged Amount** – Instead of calculating xDRs with a 5-decimal-place precision, round up xDR amount values (e.g. XXXXX.XX000 means rounding to cents, so that 1.16730 becomes 1.17).
   - **Default Formula** – The default rating formula which will be applied to every new rate created in the tariff. If you leave this empty, "old-style" rating will be used.
   - **Short Description** – A short tariff description. This will be shown in the rate lookup on the admin interface and the self-care pages for your accounts and customers. For example, for a tariff named Cust-ABC-Easy Call-1800, the short description will provide better information for your reseller ABC, who will be using this tariff, such as: "EasyCall – via a toll-free number".
   - **Description** – Extended tariff description.
3. Click **Save.**
4. Repeat steps 1-3 until you have adjusted all of the tariffs.

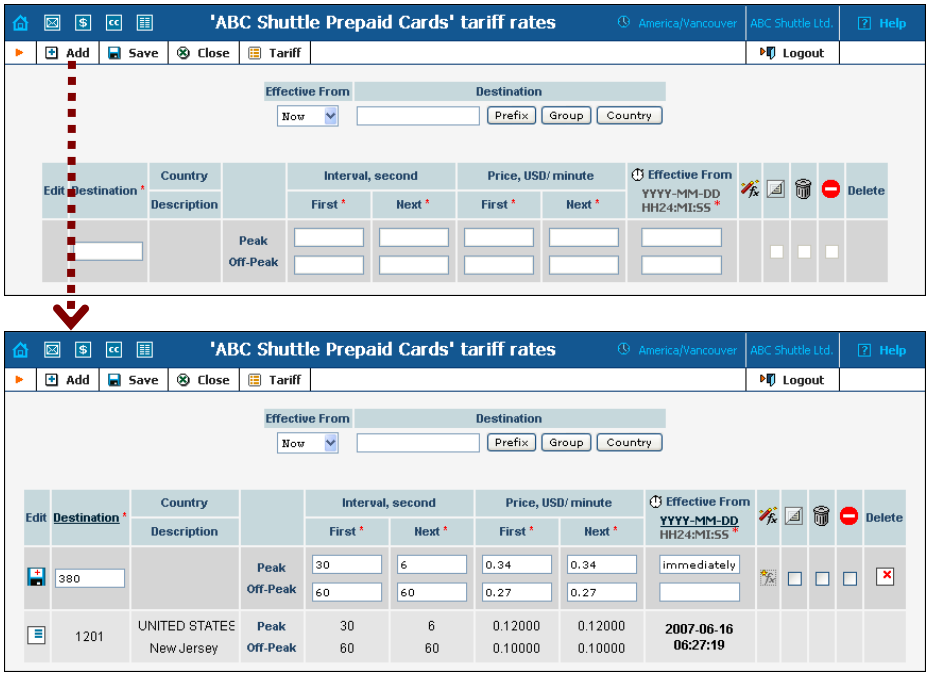
Enter Rates

Rates are per-destination prices. Please refer to the *System Concepts* chapter in the **PortaBilling Administrator Guide** for more details on billing parameters.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Managing rates online

Managing rates online is very convenient for maintaining existing rate tables, as well as for reference purposes. In the case of new price lists or major updates, the offline method is better.



1. On the Tariff Management page you will see a list of available tariffs. Click the **Rates** icon next to the name of the tariff. When you are in Tariff Management for a particular tariff, click on **Rates** in the toolbar.
2. In the **Edit Rates** screen, click **Add.**
3. Fill in the required information:
   - **Destination** – The destination prefix may be entered directly, e.g. **47** for Norway, or you can access the destinations directory by clicking the **Destination** link (in the column header). Here you can find the desired prefix by country name.

NOTE: The phone prefix you are trying to create a rate for must already exist in Destinations.

   - **Interval First** – First billing unit in seconds.
   - **Interval Next** – Next billing unit in seconds.
   - **Price First** – Per-minute price for first interval.
   - **Price Next** – Per-minute price for next interval.
   - **Off-peak Interval First**– First billing unit in seconds for off-peak time.
   - **Off-peak Interval Next** – Next billing unit in seconds for off-peak time.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

- **Off-peak Price First** – Per-minute price for first interval of off-peak time.
- **Off-peak Price Next** – Per-minute price for next interval of off-peak time.

NOTE: Off-peak fields appear only if an **off-peak period** has been defined for the tariff.

- **Effective From** – If you want this rate to take effect sometime in the future, you can either type in a date manually, or use the calendar (click the DD-MM-YYYY link).

NOTE: When using the calendar, you can specify that the date you are entering is in a different time zone than your current one. PortaBilling will then automatically adjust the time.

- **Rate Formula Wizard** – Launches the wizard for creating a custom rating formula
- **Hidden**, **Forbidden** or **Discontinued** – These flags are optional.

4. Click the **Save** button in the toolbar, or the icon on the left end of the row.
5. Repeat if you need to enter more rates.

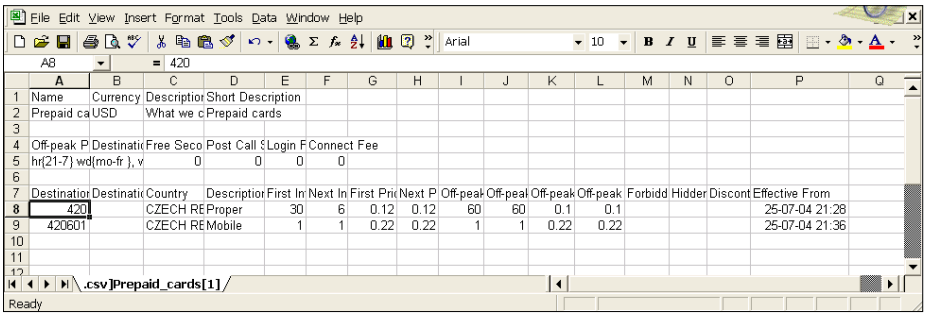
Managing rates offline

NOTE: Templates are available in PortaBilling – a powerful tool for uploading rates from custom format data files. However, in this particular example we assume that you are preparing data in the default PortaBilling format.

A rates table may be prepared using a spreadsheet processor (i.e. Microsoft Excel) and easily imported into PortaBilling. This is very convenient if you wish to make many changes. For example, you might want to increase all prices by 10%.

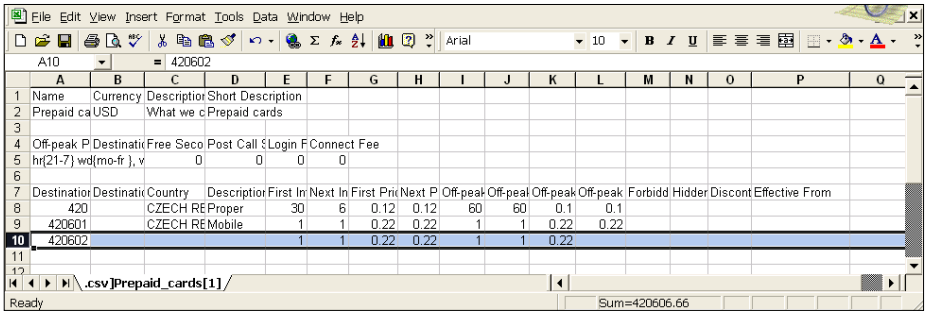
1. If you are not in Tariff Management for your tariff, go to the main menu, click on **Tariffs**, and then click on the tariff name.
2. In the Edit Tariff window, move the mouse over the **Download** button and hold it there until a popup menu appears. Choose the **Now** menu item and click on it. This will download the current set of rates (empty), and will also provide you with an overview of the file structure.
3. You will see the **File Download** dialog and be prompted to save the file or open it from its current location. We recommend that you first save the file to the folder you will be using in the future to store tariff data files, then open it in Excel.
4. You should see something similar to the screenshot below:

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Name	Currency	Description	Short Description													
2	Prepaid ca	USD	What we c	Prepaid cards													
3																	
4	Off-peak P	Destinatio	Free Seco	Post Call S	Login F	Connect Fee											
5	hr{21-7} wd{mo-fr }, v		0	0	0	0											
6																	
7	Destinatior	Destinatio	Country	Description	First In	Next In	First Pric	Next P	Off-peak	Off-peal	Off-peak	Off-peak	Forbidd	Hidder	Discont	Effective From	
8	420		CZECH RE	Proper	30	6	0.12	0.12	60	60	0.1	0.1				25-07-04 21:28	
9	420601		CZECH RE	Mobile	1	1	0.22	0.22	1	1	0.22	0.22				25-07-04 21:36	
10																	
11																	
12																	

5. Edit the file by adding more rows with rate data, so that it looks like the screenshot below.
6. Note that the columns **Country** and **Description** are for reference purposes only, and are ignored during import. Also, when using the default template you must fill in the data in the **Off-peak** columns even if your tariff does not have an off-peak period (use the clipboard to easily copy values for the four peak columns).
7. Also note that you may only use those phone prefixes which you have already defined as destinations (see **Create Destinations** above).
8. Make sure that you clear the values in the **Effective From** column (which means that the new rates are effective immediately) or enter a future date there. Otherwise, if you retain past dates, then these rates will fail to upload.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Name	Currency	Description	Short Description													
2	Prepaid ca	USD	What we c	Prepaid cards													
3																	
4	Off-peak P	Destinatio	Free Seco	Post Call S	Login F	Connect Fee											
5	hr{21-7} wd{mo-fr }, v		0	0	0	0											
6																	
7	Destinatior	Destinatio	Country	Description	First In	Next In	First Pric	Next P	Off-peak	Off-peal	Off-peak	Off-peak	Forbidd	Hidder	Discont	Effective From	
8	420		CZECH RE	Proper	30	6	0.12	0.12	60	60	0.1	0.1					
9	420601		CZECH RE	Mobile	1	1	0.22	0.22	1	1	0.22	0.22					
10	420602				1	1	0.22	0.22	1	1	0.22						
11																	
12																	

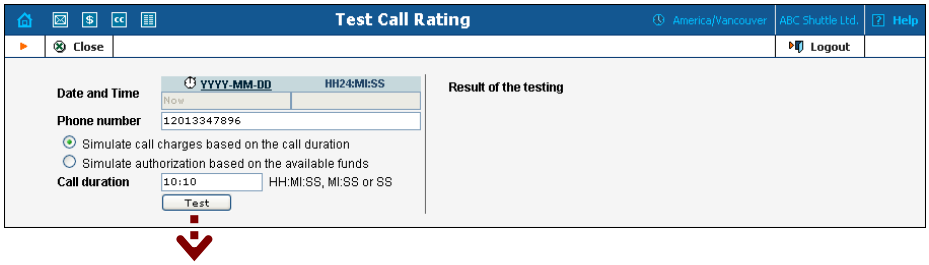
9. Save the file in Excel. You will probably get a warning from Excel that your file "*may contain features that are not compatible with CSV (Comma delimited)*". Ignore this, and choose **Yes** to retain CSV format.
10. Close the file in Excel. If you performed step 6, then disregard the message "*Do you want to save the changes you made*", as this is only due to the fact that your format is not the native Excel XLS format.
11. Go back to the PortaBilling web interface and the **Edit Tariff** screen.
12. Click on the **Upload** button.
13. Either enter the name of your file manually, or click **Browse…** and choose the file.
14. Click **Save&Close**. You should return to the **Edit Tariff** screen, where a message will inform you of the status of the import. Also, you will receive an email confirmation about the tariff upload. If any operation failed, you will receive the portion of data which was not uploaded as an attachment, so you can try to import it later.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

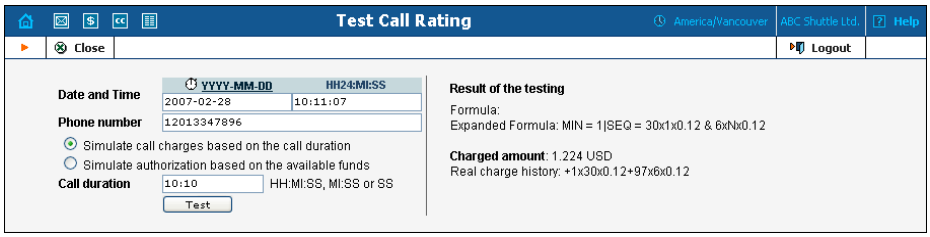
You can verify your work using the **Edit Rates** feature. After you have done so, go to the **Main Menu** (by clicking on the **Home** icon).

Test the rate configuration (optional)

1. While in the **Edit Tariff** window, click on the **Test** button to go to the Test Call Rating screen.



2. Type in the phone number for which you would like to test the rating, as well as the estimated call duration, then click on the **Test** button.

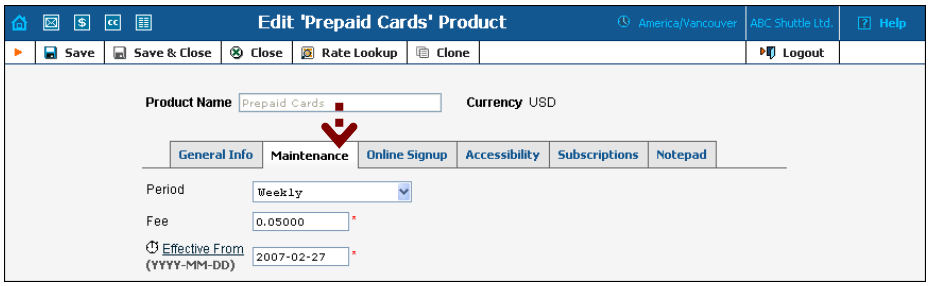


3. You will now see the estimated amount charged for this call, as well as a detailed explanation of the rating process.
4. Press the **Close** button to return to the **Edit Tariff** window.

Modify Product

If necessary, you may modify certain product parameters, e.g. maintenance fee amounts and scheduling.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com



In the Management section of the Admin-Index page, choose **Products**.

1. On the Product Management page, click on the name of the product in the list.
2. Change values in the **Edit Product** form:

General Info tab

- **Breakage** – A leftover balance which is considered "useless" (for statistical purposes). Accounts with a balance below breakage will count as *depleted*. This does not affect account authentication or authorization, so the account can still make calls if there is enough money left to cover at least the first interval.
- **Account Default ACL** – The access level assigned by default to new accounts created with this product. The ACL determines which operations may be performed by accounts on the self-care pages. The default value is "Account self-care" (pre-defined ACL), which allows all possible operations.
- **Default Discount Plan** – Leave **None** as the selected entry, since discount plans are typically used for postpaid services. Please refer to the description of volume-based discounts in the **PortaBilling Administrator Guide** for more details.
- **Info URL** – If you have an external server with a description of product features, enter the URL here (e.g. **http://www.myproduct.com**). Your customers will be able to go there from their self-care pages.
- **Description** – Your description of the intended use of this product.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

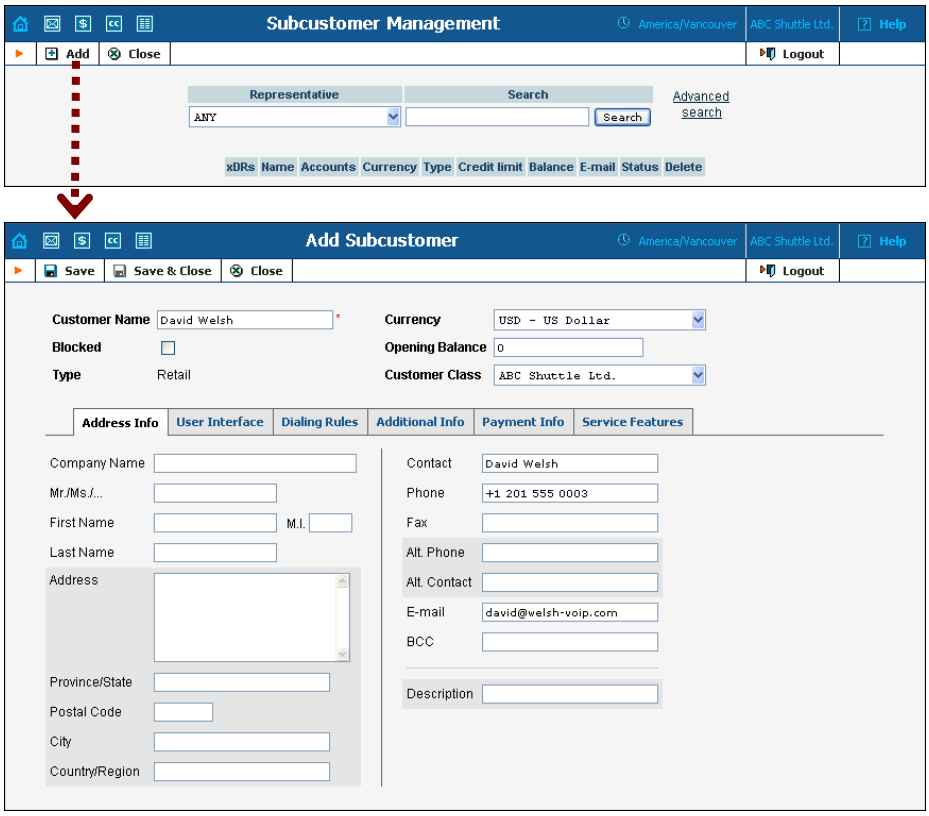
Maintenance tab

- **Period** – Surcharge application interval; will be shown in call history as a separate line each time it is charged. **None** disables maintenance fees.
- **Fee** – Surcharge amount.
- **Effective From** – Apply the specified maintenance fee only after a certain date (no fees assessed until then); choose **Immediately** to start applying charges as soon as possible.

3. Click **Save&Close.**

Create a Subcustomer

A subcustomer is an owner of accounts. The subcustomer's contact information is used to distribute account usage information, call statistics, invoices, and so on. At least one subcustomer object is required to contain the actual accounts (prepaid cards).



In the Management section of Admin-Index, choose **Subcustomers**.

1. On the Subcustomer Management page, choose **Add**.
2. Fill in the **New Customer** form. Please note that there are several tabs with extra information available on the screen. The most important fields are:

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Main form (top)

- **Name** – Short name for the customer object; will be used on the web interface.
- **Currency** – The currency in which this customer will be billed.
- **Opening Balance** – Starting balance for the customer; the default is zero.
- **Customer Class** – Choose the customer class you have created in the previous step

Address Info tab

- **Email** – Email address for distribution of accounting information. After the billing period is over, a list of xDRs and other statistics will be sent to this address.
- **BCC** – Delivery to the specified email address of your account representative a copy of every outgoing email sent to the customer; this may be used for debug and archiving purposes.

Additional Info tab

- **Billing Period** – Frequency of distribution of accounting information. For more details about different available billing periods, see the **PortaBilling Administrator Guide**.
- **Send Statistics – Summary only** – Distribute a call summary only, and do not attach a details file; this might be useful in the case of a large amount of calls. Other options are **full statistics** (attach a complete list of xDRs) or **do not send** (no not deliver call statistics to this customer via email at all).

Payment Info tab

- **Credit Limit** – If left empty, there is no credit limit for this customer.

User Interface tab

- **Time Zone** – The time zone in which the customer will see his xDRs, and which will also define his billing period. For example, if you choose **America/New_York** here and the billing period is **Monthly**, the billing period will start on the first day of the month at 00:00 New York time.
- **Web Interface Language** – The language to be used on the customer's self-care web interface.

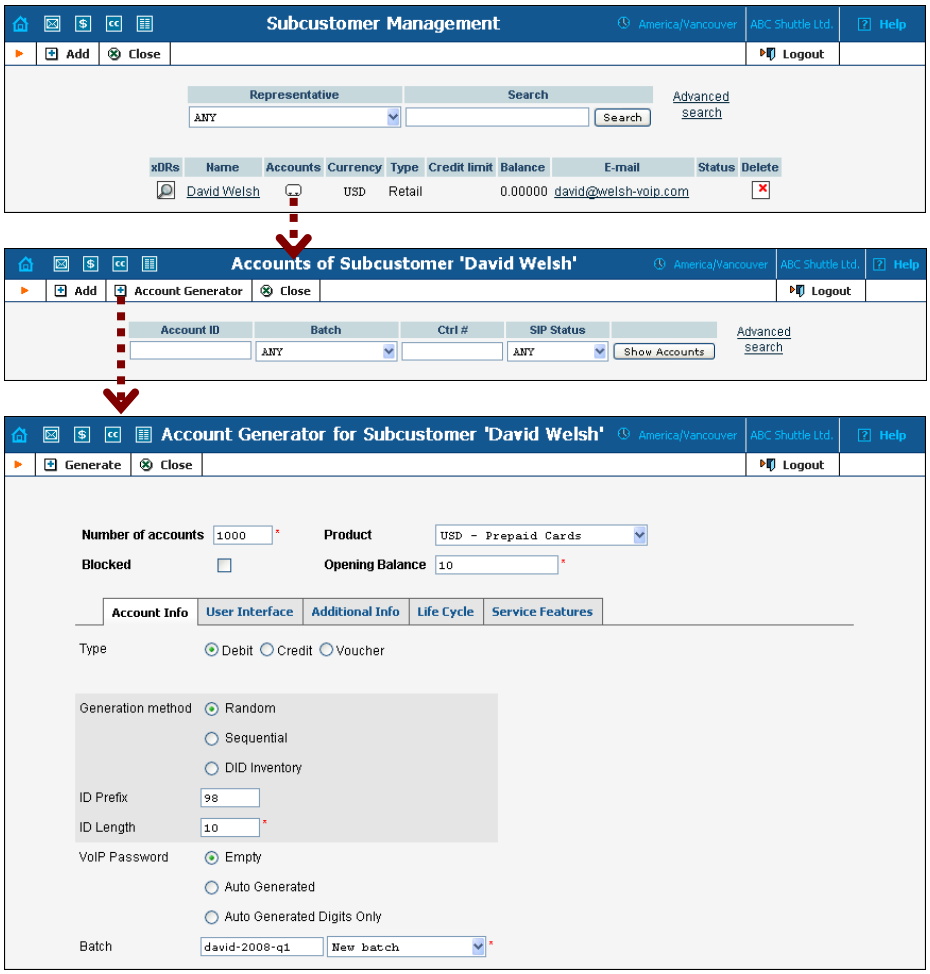
3. Click **Save&Close.**

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Generate Accounts

NOTE: Before generating accounts for a production system, read the section on "Provisioning prepaid accounts".

1. Go to the **Subcustomers** screen (the screen which contains a list of customers). It should look like the screenshot below:



2. Next to the customer name, click on the Account or icon (in the **Accounts** column), which will take you to the account management for that customer.
3. Click on the **Account Generator**.
4. Fill in the **Account Generator** form:
   - **Number of Accounts** – Number of accounts (prepaid cards) to be generated.
   - **Product** – Choose the product which you would like your accounts to have.
   - **Blocked** – It is normal practice to generate all prepaid cards as blocked, so they cannot be misused before being sold to the

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

dealer or end customer. You can always choose later to activate the whole batch of cards, or an individual card.

- **Opening Balance** – The initial balance on the card.

Account info tab

- **Type** – Select **Debit** for prepaid service.
- **Generation Method** – Choose **Random** here; this will assign every account a unique, randomly-generated PIN.
- **ID Prefix** – If you would like all of the generated accounts to start with the same digit string (e.g. **98**), enter it here. Thus, if you enter 98 and an ID length of 10, account IDs (PINs) will look like this: 98NNNNNNNN, where N = random digits.
- **ID Length** – All account IDs (PINs) will be numerical and of the specified length. In order to avoid problems with printing prepaid cards, PortaBilling will not generate account numbers with a leading zero. Also, PortaBilling will only allow generation of a batch with feasible parameters, e.g. it is impossible to generate a batch of 1,000 accounts with ID length 4 and ID starting at 55.
- **VoIP Password** – To improve security, you can use an account password during authentication, in addition to a PIN. Not all IVRs support this feature. If you choose **Empty**, no password will be assigned for the account, and the password check will be switched off during authentication. Choosing **Empty** is recommended by default. If you decide to use passwords, then please use the **Auto-generated digits only** option, since then the password can be entered in the IVR via phone keys.
- **Batch** – A batch is a management unit for accounts. A batch name is alphanumeric. You can type a new name here, or use the existing name in order to generate more accounts for the same batch.

Additional Info tab

- **E-Commerce Enabled** – If checked, this will allow your debit card owners to make online payments via the PortaBilling web interface. (Leave unchecked.)
- **Discount Plan** – Applies a specific discount plan to this group of accounts. (Leave as **Product Default**.)

Life Cycle tab

- **Activation date** – Account activation date.
- **Expiration date** – Account expiration date.
- **Lifetime** – Relative expiration date; account will expire on "first usage date" + "life time" days. If you do not want to use this feature, leave the field blank.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

User Interface tab

- **Login** – If you choose **Account ID** (default), your customer will use his account ID (PIN) to login to the self-care pages. If you choose **Empty**, the account owner will not be able to use the self-care pages at all until a login ID has been assigned for his account.
- **Password** – **Auto-generated** means that a random password for web access will be assigned for each account (these passwords will be included in the .CSV file with account information). **Empty** means that no password will be assigned, so account owners will be able to login to the web interface simply by providing their account ID (PIN).
- **Time Zone** – When an account owner accesses the web self-care pages to see a list of his calls, the time will be shown in the time zone most appropriate for him.
- **Web Interface Language** – The language to be used on the account's self-care web interface.

Service Features tab

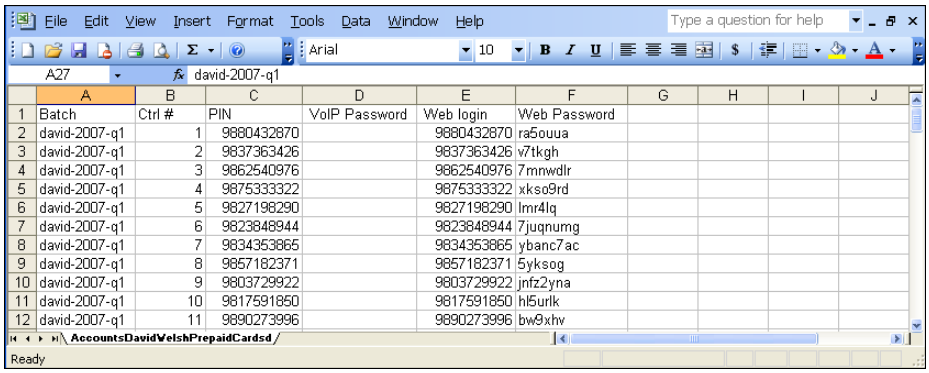
- **Preferred IVR language** – This is a custom attribute which is transferred to the IVR. Leave English here if you are not sure whether your IVR supports it.
- **Associated number** – Redirect number (described in the *Use the Redirect Number Feature* section of the **PortaBilling Administrator Guide**). Leave this empty.
- **UM enabled, Forward Mode** and other IP Centrex features – Leave these unchecked for prepaid cards.

5. Click **Generate Accounts**. A confirmation screen will indicate that your information has been accepted.
6. Click **Close** to return to the account administration page.

NOTE: Account generation tasks are executed every few minutes; it may take a while to generate large numbers of accounts.

The generated cards will be distributed via email to the user who created them.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com



File Edit View Insert Format Tools Data Window Help — Type a question for help

Arial 10

A27 david-2007-q1

	A	B	C	D	E	F	G	H	I	J
1	Batch	Ctrl #	PIN	VoIP Password	Web login	Web Password				
2	david-2007-q1	1	9880432870		9880432870	ra5ouua				
3	david-2007-q1	2	9837363426		9837363426	v7tkgh				
4	david-2007-q1	3	9862540976		9862540976	7mnwdlr				
5	david-2007-q1	4	9875333322		9875333322	xkso9rd				
6	david-2007-q1	5	9827198290		9827198290	lmr4lq				
7	david-2007-q1	6	9823848944		9823848944	7juqnumg				
8	david-2007-q1	7	9834353865		9834353865	ybanc7ac				
9	david-2007-q1	8	9857182371		9857182371	5yksog				
10	david-2007-q1	9	9803729922		9803729922	jnfz2yna				
11	david-2007-q1	10	9817591850		9817591850	hl5urlk				
12	david-2007-q1	11	9890273996		9890273996	bw9xhv				

AccountsDavidWelshPrepaidCards4

Ready

A CSV file with information about the new accounts will be attached.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

3. Configuration Examples for Cisco Gateways

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

Authorize and bill customers by the phone number they are calling from (ANI-based billing)

PortaBilling gives you great flexibility in choosing how you would like to authorize and bill your customers. For ANI-based billing, you only need to do the following:

1. Create a tariff (or tariffs) and a product.

Note: If you are providing both prepaid cards and ANI-based billing, take measures to prevent fraud (e.g., someone could dial your IVR and enter their neighbor's home phone number as the PIN). See the ***Error! Reference source not found.*** topic below.

2. Use the corresponding application on your gateway to handle the call. You can use one of the default Cisco applications (clid_*), create your own, or use PortaOne's "Advanced Remote Authenticate" script (available at **http://store.portaone.com**). The only important thing is that ANI (CLI) must be in the User-Name attribute in the AAA requests which go to the billing.

None of the default Cisco applications support call authorization, so the gateway will not consult billing as to whether the customer is allowed to call this particular destination and what is the maximum allowed call duration. Needless to say, this may lead to abuse of your service; moreover, there are several other drawbacks to the default Cisco applications. In order to avoid all these problems, it is recommended that you use PortaOne's "Advanced Remote Authenticate" script, or (if you need advanced IVR capabilities such as "announce available balance or number of minutes") modify the debit card application.

Here is a sample:

```
aaa new-model
aaa authentication login h323 group radius
aaa authorization exec h323 group radius
aaa accounting connection h323 stop-only group radius
!
gw-accounting h323 vsa
!
call application voice ani tftp://…/portaone.tcl
call application voice ani authenticate-by ani
call application voice ani skip-password yes
call application voice ani authorize yes

!
dial-peer voice 1 pots
```

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

```
 application ani
 incoming called-number .
 port 1:D
!
gateway
!
```

3. Create a customer who will own these accounts.

4. Create accounts with an Account ID identical to the phone number from which the service is to be used.

TIP: Check in which format ANI (CLI) numbers are reported by your gateway. For example, the phone number 42021234567 might be reported as "21234567", "021234567", or something different. You must use exactly the same format for the Account ID (or change your application so as to convert it to the desired format). Only one extra item is required in the application configuration for PortaOne's "Advanced Remote Authenticate" – the translate parameter. The following example assumes that phone numbers arrive in the local format, prefixed by 0, e.g. 021234567 instead of 42021234567:

```
call application voice ani translate "/^0/420/"
```

Bill customers who are connected via T1/E1 directly to a port on your gateway

Typically, you do not use authentication or authorization for such "port-based billing", since you are always sure that your customer is on the other end of the physical line. Although it might be a good idea to implement call authorization so that you can control which destinations the customer is allowed to call to, we will not discuss this here. For port-based billing, you need only do the following:

1. For each such customer, create a tariff that you want to use to bill the customer and a product. Only one row in Accessibility is necessary, with the node "ANY" and the tariff you have created.

2. Now you must make sure that each call made by that customer is tagged as belonging to him. Use the corresponding application on your gateway to handle the call. You can use the PortaOne's "Session name" application, or create your own.

The often difficult part in gateway configuration is designing dial-peers to match certain voice ports. Dial-peers should resemble the following configuration:

```
dial-peer voice 1 pots
    application client_on_port_1
```

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

```
    direct-inward-dial
    port 1:D
```

They will be listed with an operation status of down, as the port specification must be accompanied by a number matching a specification, for example:

```
dial-peer voice 1 pots
    application client_on_port_1
    incoming called-number .
    direct-inward-dial
    port 1:D
```

This dial-peer is not adequate for our needs, because any number matching the specification will prefer the port specification, i.e. this dial-peer will match any port. The solution is to use a number-matching scheme that will not match any number.

```
dial-peer voice 1 pots
    application client_on_port_1
    incoming called-number A
    direct-inward-dial
    port 1:D
```

This solution may be considered a "hack", yet it is functional and secure. For increased security, you may specify a 32-character string with a random sequence of "ABCD" characters. The probability of receiving such a number is near zero. So the configuration should look as follows:

```
aaa new-model
aaa authentication login h323 group radius
aaa authorization exec h323 group radius
aaa accounting connection h323 stop-only group radius
!
call application voice client_on_port_1
flash:app_session_name.2.1.0.tcl
call application voice client_on_port_1 user-name abc_ltd
!
call application voice client_on_port_2
flash:app_session_name.2.1.0.tcl
call application voice client_on_port_2 user-name xyz_inc
!
gw-accounting h323 vsa
!
dial-peer voice 1 pots
    application client_on_port_1
    incoming called-number A
    direct-inward-dial
    port 1:D
!
dial-peer voice 2 pots
    application client_on_port_2
    incoming called-number B
    direct-inward-dial
    port 2:D
!
gateway
!
```

1. Create customers who will own these accounts.

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com

2. Create accounts with an Account ID identical to the name you entered in the configuration for the applications (**abc_ltd** and **xyz_inc** in our example).

Authenticate and bill customers by the IP address of their gateway

This is another example of how easy it is to implement different billing schemes with PortaBilling. For IP-based billing, you just have to do the following:

1. Create a tariff and a product. Since "Node" and "Access Code" only make sense for incoming telephony calls, set node to "ANY" and leave Access Code blank for the IP-based billing product.

2. Use the corresponding application on your gateway to handle the call. You can use the Cisco application remote_ip_authenticate, PortaOne's "Advanced Remote Authenticate" (recommended), or create your own. The only important thing is that the IP address of the remote GW be in the User-Name attribute in the AAA requests which will go to the billing. Here is a sample configuration:

```
aaa new-model
authentication login h323 group radius
aaa authorization exec h323 group radius
aaa accounting connection h323 stop-only group radius
!
gw-accounting h323 vsa
!
call application voice remote_ip tftp://…/portaone.tcl
call application voice remote_ip authenticate-by ip
call application voice remote_ip_auth password cisco
!
dial-peer voice 11 voip
  application remote_ip
  incoming called-number .
!
```

3. Create a customer who will own these accounts.

4. Create accounts with an Account ID identical to the IP address of the remote gateway, and enter cisco as the VoIP password for this account. (The password cisco has been chosen only for backward compatibility with the Cisco remote_ip_authenticate script. With PortaOne's "Advanced Remote Authenticate" you can use a different password; just change the list in the application config).

© 2000-2008 PortaOne, Inc. All rights Reserved. www.portaone.com